

**TRADE PREFERENES AND INDUSTRIAL EXPORT DYNAMISM:  
CONCEPTUALISING THE NEXUS BETWEEN ASYMMETRIC MARKET ACCESS  
PRIVILEDGES AND SOCIAL CAPABILITY DEFICITS**

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By

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## **Abstract**

The 1996 Singapore Ministerial Declaration refocused attention in the international community on the idea of non-reciprocal system of trade preferences as a means of development assistance. Authors of the initiative had hoped that such policy would among others, help promote industrial exports and facilitate sustainable development in developing countries. However, this happened against the background that previous schemes could not be particularly associated with any form of sustainable export successes that were usually contemplated and expected from beneficiaries. In view of the developmental implications of this renewed focus, the imperativeness of a reconsideration of the economics of the programme cannot be overemphasized.

While extant trade preference studies have made important contributions to our understanding of their effectiveness, the limited focus of research on direct impact like, static increases in exports, foreign direct investment (FDI) and employments does not seem to provide satisfactory assessment. Very often, the expected indirect or dynamic impact on productivity improvements needed to strengthen competitive capacities and make gains (export performance) sustainable is neglected. In this study an attempt is made to address this issue.

The main objective of the research is therefore to analyse the relationship between non-reciprocal system of trade preferences and industrial export performance sustainability in beneficiary countries. This is accomplished by utilising a new analytical insight from the global production network literature. The advantages of this analytical departure lie not just in the fact that it allows us to accommodate the dynamic dimension of impact assessment into the study framework, but also helps reflect the concerns of globalisation advocates in the contemporary analysis of development issues. These advocates argue that research on economic development in general and industrial development in particular in the new era of global capitalism must as a matter of necessity, be informed by the literature on globalisation.

After conceptualising an analytical model which has both static and dynamic dimension, it is then applied and tested for the US African Growth and Opportunity Act (AGOA) Trade Initiative of 2000. Lesotho's apparel export under the scheme serves as the case study for this investigation. Results of the econometric estimation for the static impact assessment reveal that AGOA has been effective in stimulating Lesotho apparel exports to the US market.

The dynamic impact assessment dimension is carried out within the context of the debate on economic growth and convergence. Specifically, it is argued that the conditions necessary for export performance to be sustainable require that national social-capability in a beneficiary economy be adequate and sufficient. The estimated regression confirms this hypothesis for the reference case study.

Overall, the dissertation has shown that research in economics can benefit from analytical insights borrowed from other disciplines. More important however, is the study's contribution to the trade policy debate on the impact of trade preferences on export development. On one hand, the static impact analysis addresses a key gap in existing works which seems to place so much emphasis on aggregated national level data and cross-country regression as bases for empirical evidence. By utilising disaggregated firm level data for a specific country, analysis here finds relevance in the continuing policy debate on trade preference impact assessment.

On the other hand, the dynamic aspect of the analytical model has not only helped us to shift the frontier of knowledge beyond its current static boundary, but also to inform the debate on economic growth and convergence. As efforts to unravel the puzzle over the non-convergence of cross-country growth performances continue to flourish, findings here lend credence to the hypothesis that social capability matters for economic performance of nations.

**Keywords:** Trade Preferences; Economic Growth and Convergence; Industrial Development; Export Performance; Technology Transfer; Social-Capability; Globalisation; Global Production Network; Supplier Linkage; Lesotho.

## Declaration

I declare that *Trade Preferences and Industrial Export Dynamism: Conceptualizing the Nexus between Asymmetric Market Access Benefits and Social Capability Deficits* is my own work, that it has not been submitted before for any degree or examination at any other university, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

Na-Allah Abdelrasaq Suyuti

August 2007

Signed: .....

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# CHAPTER 1

## INTRODUCTION

### 1.1 STUDY BACKGROUND

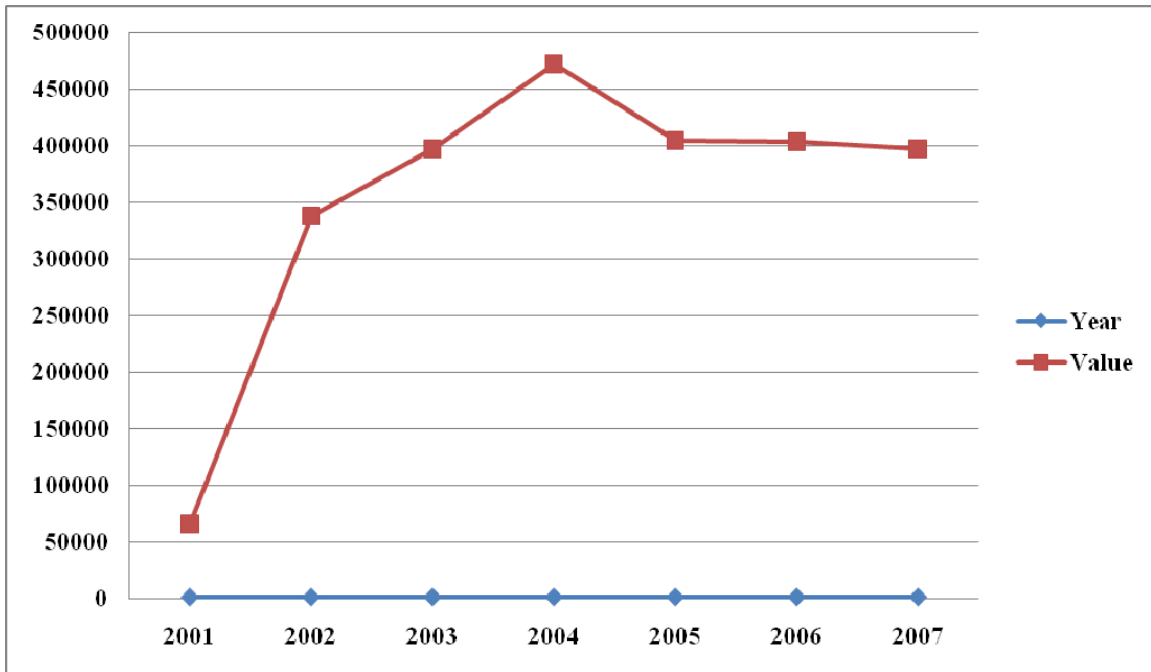
Between July 2004 and July 2005, a major economic crisis struck the small land-locked country of Lesotho when the regime of the World Trade Organisation (WTO) Agreement on Textile and Clothing (ATC) finally came to an end<sup>1</sup>. Her erstwhile booming apparel sector since qualifying for the US African Growth and Opportunity Act (AGOA) preferential trade benefits in 2001 suffered a major setback as rising export performance suddenly took a downturn. As Figure 1 below shows, the steady increases in values of US apparel imports from Lesotho from 2001 could not be sustained beyond 2004.

Prior to its expiration, the ATC was widely touted as the singular policy with potentials to reverse any gain that AGOA might have succeeded in delivering to any of its apparel-exporting beneficiaries (Stevens and Kennan, 2004). This is because its termination was expected to phase out quota restrictions on exports (especially to the US) of more competitive producers like India and China among others.

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<sup>1</sup> The ATC came into force subsequent to the accession of the WTO as the world trade governing body. The Agreement which was negotiated during the Uruguay Round to replace the Multi-fiber agreement regime mandated the phase-out of quota on apparel and textiles over a ten-year period beginning in January 1995 and ending in December 2004.





**Figure 1: Value of US AGOA apparel imports from Lesotho (2001 -2007)**

Values are in '000'US Dollar

Source: USITC

The shock brought about by the downturn in apparel exports had far reaching implications for Lesotho's fragile economy. The industry that was widely acknowledged as the largest employer of labour especially women who constitute the bulk of the poor in the small land-locked economy immediately went into distress as news of factory closures and job losses started making the headlines. According to a press statement by the Lesotho National Development Corporation (LNDC), three apparel manufacturing companies closed down their operations in 2004 alone with another following suit in January 2005 (LNDC, 2005). Other estimates put the number of factory closures that were reported in January 2005 at six (Bennet, 2006).

Those that avoided outright closures had their capacities reduced to cope with the reality

of an anticipated increased competition. While AGOA was credited with the creation of about 50,000 jobs for the country's apparel industry between 1999 and 2003 (Rolfe and Woodward, 2005) about 10% of this was lost during the crisis period<sup>2</sup>. Similar downturns in exports with related socio-economic consequences were also reported in other significant AGOA beneficiary countries like Swaziland, Kenya, Namibia and others.

It is therefore tempting to ask: how really effective are trade preference programmes as strategies for achieving sustainable industrial export development in poor countries? It is often the case that when the value of their incentives is reduced by other developments in the international trading environment (as the experiences of Lesotho and other African countries have just shown), benefits attributable to their implementation also disappear. More worrisome is the derived impression from this that beneficiaries will not be able to sustain their export performance when programmes finally terminate. This problem has brought to the fore the futility of temporary asymmetric market access privileges as strategies for sustainable industrial development. It further raises a specific question on the relation between trade-preferences and industrial export performances.

This study therefore focuses on an analysis of the relationship between trade-related development assistances or what is otherwise known as Non-Reciprocal Trade Preference Programme (henceforth, NRTPP) and industrial export performance in beneficiary economies. Attempts to analyse this issue have been documented in trade policy research

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<sup>2</sup> It was precisely during the AGOA induced boom in the apparel sector that for the first time more people in Lesotho worked in the manufacturing sector than worked for the government (USTR, 2004)

literature since the 1960s. For a survey of these works, see Brown (1978) and for a more recent attempt see Hoekman and Ozden (2005). Much of the analysis in these researches has been concerned with determining whether or not preferential treatments have been successful in facilitating exports of beneficiaries to the target market (static impact analysis). There have been very few attempts at understanding whether or not the resulting performances are sustainable in the long run (dynamic impact assessment).

The lack of sufficient attention to this dynamic aspect of research is not because the theoretical framework of NRTTP does not accommodate it. Quite literally in the policy's conceptualisation, technology transfer and productivity improvements are anticipated to accompany increased export sales and make gains in export performance sustainable in the long run. Until fairly recently, assumptions in most neoclassical models of international economics were that such productivity enhancing technology can be freely and costlessly transferred from the leaders to the followers. But since the dawn of the debate on economic growth and convergence the view that technological progress is not a free good is increasingly becoming popular in the literature.

The technological gap-model for instance suggests that technology is endogenous and as argued in latter contributions by Abramovitz and his supporters its transferability depends at least on the adequacy of an economy's social-capability. It follows from this argument that NRTTP beneficiaries whose economies are not socially capable enough may not be able to improve on their efficiencies and sustain their export performance gains under the programme in the long run.

Despite this however, relatively little evidence has been documented on the veracity of this claim (social-capability hypothesis), and in the context of trade-preference impact assessment we are not aware of any such evidence. It is against this background that the present study proposes to address the issue by analysing the relationship between trade-preferences and industrial export dynamism.

## **1.2 OBJECTIVES OF THE STUDY**

The general objective of the research is to analyse the relationship between non-reciprocal asymmetric market privileges (NRTPP) and industrial export performance sustainability in beneficiary countries.

Specifically however, the research aims to accomplish the following:

1. Develop a suitable theoretical framework for analysing the relationship between trade-preferences and industrial export sustainability.
2. Empirically assess the impact of AGOA trade-preference incentives on export performances of Lesotho apparel producers (static analysis).
3. Investigate the impact that variables of the social-capability environment in Lesotho exert on sustainability dimensions of trade-preference induced export performance (dynamic analysis).
4. Identify areas of possible policy intervention and make appropriate recommendations.

### 1.3 ANALYTICAL DEPARTURE

To overcome the conceptual and empirical constraints of previous research as enunciated above, the dissertation will draw on insights from the literature on globalisation and regional development. To be precise, it will be demonstrated that the *global production network theory (GPN)* that has been put forward by the globalists as a framework for analysing regional development offers a very useful technique for the undertaking that is contemplated.

As an analytical device, not only does the GPN model focuses on the sustainable dimension of development, it also emphasises the global-local nexus in the analysis of regional development. This is consistent with the views of so many experts in this field of study who have in the last few years, challenged the validity of existing state-centric approach to research on economic development (Birkinshaw and Hagstrom 2000; Borrus et al 2000; Rugman and D’Cruz 2000; Ernst and Ozawa 2002; Coe, N. M. *et al*, 2004). These analysts argue that modern globalisation forces are increasingly transforming the dynamics of regional development that to continue to view such economic progress as essentially driven by local forces amounts to ignoring a fundamental restructuring of the world economy that is currently taking place. It is emphasised for instance, that modern industrial activities are increasingly configured in network forms whose territorial domains transcend rather contained within national boundaries. Any research on industrial development that seeks to make informed contribution must therefore accommodate this global dimension in its framework.

## **1.4 RELEVANCE OF THE STUDY**

The relevance of the proposed undertaking can hardly be more pressing than it is at this moment in time. In the current policy debate on appropriate form of development assistance, the favoured slogan seems to be ‘trade not aid’. This is evidenced not just by the numbers of new NRTPP initiatives that have emerged since 2000, but also by the numbers of proposed Economic Partnership Agreement between developed and developing countries. Evaluating the effectiveness of these programmes in terms of how well they are delivering on their developmental promises therefore appears to be a step in the right direction.

Furthermore, in the United Nations Millennium Declaration (MDGs) of the year 2000, the international community commits itself among others to the goal of halving the proportion of the world’s poor by 2015. In view of its developmentally relevant value particularly as it relates to poverty issues in Sub-Saharan Africa, seeking a better understanding of how NRTPP like AGOA are delivering on their promises necessarily becomes a key policy challenge to the actualisation of MGD targets.

In order to set the stage for the analyses that will be taking place, the next section briefly gives an overview of how the remaining part of the dissertation is structured.

## **1.5 ORGANISATION OF THE THESIS**

An analysis of the relationship between trade-preferences and industrial export sustainability starts off in chapter two with a consideration of the role of trade-preferences in development. This chapter argues that preferential treatments in general affect economic performance in three main areas: welfare of members; multilateral liberalisation of trade and industrial export development in beneficiary countries. It is however, in the last area of industrial export development that NRTTP finds one of its justifications and relevance as trade-related economic development assistance. This leads to a discussion of the role of trade policy in economic growth.

The chapter points out that economic growth as implied in trade policy theory is grounded on the potentials for innovation and technology adoption that trade integration facilitates for participants. In the context of NRTTP assessment therefore we should expect that beneficiaries will ordinarily have no problem sustaining their export performance once they have been able to upgrade their efficiency through adoption of technological best practise in the frontier.

Against this background, the chapter proceeds to review the literature on the empirical performance of NRTTP and discovers that past researches have been mostly pre-occupied with static issues of export stimulation to the neglect of dynamic issues of export performance sustainability. In concluding the chapter, it is suggested that a new framework that can accommodate this concern is needed.

From the discussions in chapter two it follows that the next logical step is to develop a framework that is suitable enough for analysing the impact of trade-preferences in terms of both static and dynamic dimensions of industrial export development. Chapter three follows this direction and utilises insights from the literature on globalisation, precisely, Global Production Network (GPN) theory, to identify three criteria viz: value-creation, value-enhancement and value-retention for analysing the relationship between trade preferences and export performance.

The first criterion of value-creation is argued to be a static impact assessment issue and its economics is discussed in chapter four. This chapter (Chapter 4) submits that value-creation is a question of export stimulating ability of a preferential trade scheme and discusses the way this objective can be achieved within the context of the new global production networking arrangements.

The other two criteria (value-enhancement- and retention) are presented as elements of the dynamic impact analysis aspect of NRTTP. The main economic issues that are relevant to their analyses are the focus of chapter five.

This chapter specifically takes up issues with the trade policy theorists' arguments on trade facilitated innovation and technology transfer. It is argued that successful adoption of best practise by backward economies is not a free and costless effort as its proponents would like us to believe. Though their position on this issue is consistent with the mainstream views, arguments of the technological gap models suggest otherwise.



Principally represented by Abramovitz's hypothesis, these opposing views argue that the prospect for successful technology transfer (and by extension sustainability of NRTTPP induced export performance) is dependent on the adequacy of social-capability in the host economy.

The chapter therefore hypothesizes that prospects for successful accomplishments of both value-enhancement- and retention elements of the dynamic processes are governed by adequacy of national social-capability. The literatures on manufacturing efficiency and supplier linkages are introduced in this chapter as analytical points of references for value-enhancement and value-retention respectively.

The crux of the impact analysis study is contained in chapter six. Here, all the arguments of preceding chapters are put together to specifically address the issues raised in the statement of objectives. An impact assessment framework (model) is presented which is then applied to empirically investigate the static and dynamic impact of AGOA trade incentives on apparel exports of Lesotho to the US market.

The result of this stimulating exercise is a list of academically relevant findings and policy recommendations that the research hopes will help inform intellectual debates and policy decisions for better deliveries of development assistances in chapter seven.

## **CHAPTER 2**

### **TRADE PREFERENCES IN DEVELOPMENT**

#### **2.1 INTRODUCTION**

From economics analysis perspective, it is axiomatic to say that development concerns have always been the driving force behind preferential liberalisation of trade between nations. From the story of the Western Europe integration movement following the end of World War II to the more recent plethora of non-reciprocal arrangements between developed and developing countries, the objectives have always been to promote trade and fast track economic development in member nations. This chapter introduces the main issues that have arisen over the last half a century or so, on the role of trade-preferences in development. Our objective of course is to present the state of the research with a view to identifying area(s) requiring further attention.

The chapter begins with a review of the historical background of trade-preferences in Section 2.2, followed by a brief introduction to the controversies that surround the analysis of their economic impact in Section 2.3. From the discussion in 2.3, it is pointed out that one of the key objectives of the non-reciprocal version of trade-preference (NRTPP) is to support development efforts through the promotion of industrial exports in the Least Developed Countries (LDCs). Section 2.4 first gives a background review of the genesis of this idea before the relevant theoretical arguments on how trade policy can

help stimulate growth and by extension industrial export development are considered in Section 2.5. In Section 2.6 an attempt is made to explain how past non-reciprocal schemes have performed through a review of available empirical evidence. Subsequent section highlights the major shortcomings of this impact assessment literature before the final part (Section 8) concludes the discussion.

## **2.2 BACKGROUND**

A significant feature of the global economy since the end of World War II has been the rise in preferential trading activities between countries. According to Pomfret (2003), the high point of these activities is represented by the success of Western Europe integration in the 1960s and the adoption of regionalism by the USA in the 1980s.

The post war preferential liberalisation movements allegedly began with the establishment of the European Economic Community (EEC) under the 1958 Treaty of Rome. Originally, this treaty brought together six European countries under a common market framework<sup>3</sup>. Though similar less ambitious schemes were initiated and implemented in other parts of the world, notably Latin America and Africa, they were largely ineffective and amounted to virtually nothing (Ethier, 1998). Most programmes that were so crafted and implemented, envisioned economic integration of member nations through gradual reduction of artificial trade barriers on a reciprocal basis.

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<sup>3</sup> The six original members of the Community are France, Germany, Italy, Belgium, Netherlands and Luxembourg.

However, another variant of preferential trade arrangements is organised on a non-reciprocal basis through unilateral extension of tariff concession by one or a group of countries to another. It is a form of development assistance or aid-through-trade scheme that the rich nations of the world offer to the poor member nations of the international community. While examples of these types of schemes predate the war years<sup>4</sup>, the origin of most of the non-reciprocal trading blocks that we know today can be traced back to the United Nations Conference on Trade and Development (UNCTAD)'s Declaration on a global system of preferences in New Delhi in 1968. The Generalised Systems of Preferences (GSP) that resulted had under the enabling clause encouraged the industrialised countries to extend unilateral tariff reductions to their imports from states classified as Least Developed Countries (LDCs). Among the publicly stated goals of GSP and other forms of non-reciprocal system of preferences that were subsequently introduced in favour of developing countries were increasing export earnings, promoting industrialisation and accelerating the rates of economic growth and development in these poor countries<sup>5</sup>.

Following the UNCTAD's Declaration on GSP, the European Community was the first to put a scheme in place in 1971 and was followed by Japan and Norway in August and October of the same year respectively. Several other European countries including the UK had by 1974 implemented one scheme or another in the spirit of GSP. North American countries of Canada and United States also concluded and introduced GSP

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<sup>4</sup> A good example is the special preferences granted by the United States to exports from Philippine Islands between 1900 and 1940, (See Brown, 1978).

<sup>5</sup> For details, see UNCTAD. 1985. The History of UNCTAD 1964-1984. UNCTAD/OSG/286. New York

programmes in the mid 1970s. Besides the GSP model, the European Community further concluded a Special Round of non-reciprocal preferential liberalisation arrangement with African, Caribbean and Pacific (ACP) countries under the Lome Convention of 1975.

If the decades of the 1960s and 1970s were replete with stories of the creation of one form of preferential trading bloc or another, the 1980s and the 1990s witnessed their consolidation on a grand scale. Arguably the two most important developments during this period were the 1986 Single European Act, which required the EEC to complete its internal market by 1992 and the formation of North American Free Trade Area (NAFTA) in January 1994.

Between the early years of the 1980s and the late years of the 1990s the number of preferential trading blocs especially of the non-reciprocal version increased at an alarming rate<sup>6</sup>. As one writer observed, the proliferation was such that since the conclusion of the Uruguay Round and the establishment of the World Trade Organisation (WTO) in January 1995, 125 Regional Trade Agreements had been notified to the WTO with an average of 15 notifications per year. During the four and a half decade of the General Agreement on Tariff and Trade (GATT), the annual average was less than three (Sampson, 2003).

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<sup>6</sup> Some prominent examples of the non-reciprocal blocs that were formed during the period under consideration include: one, the Caribbean Basin Economic Recovery Act (CBERA), otherwise referred to as the Caribbean Basin Initiative (CBI), promulgated by the United States in 1983 in favour of 28 eligible Central America and Caribbean countries and territories; two, the Andean Trade Preference Act (ATPA) promulgated in 1991 by the United States in favour of Bolivia, Colombia, Ecuador and Peru; and three, the Canadian Trade, Investment and Industrial Cooperation programme (CARIBCAN) Act enacted in 1986 in favour of 18 Commonwealth Caribbean countries and territories. Also, the South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA) between Australia and New Zealand and 13 island country members of the South Pacific Forum formally came into being in 1981.

More recent evidences of preferential trade proliferation are again very visible on the non-reciprocal front. The 1996 Singapore Ministerial Declaration had particularly re-focused attention in the international community on this idea by launching the special unilateral trade preference schemes for developing countries<sup>7</sup>. In response to this initiative, some prominent donors in the international development community reviewed their commitments either under existing schemes or outrightly created new ones to provide better and enhanced market access for beneficiaries. For instance:

- i) In 2001 the European Union's Everything But Arms (EBA) scheme came into effect to improve on market access provisions of its Generalised Systems of Preferences (GSP) programme.
- ii) In May 2000, the United States of America introduced the African Growth and Opportunity Act (AGOA) under the Trade and Development Act of 2000 to improve on its GSP commitments for qualifying countries from Sub-Saharan Africa.
- iii) In 2000 and 2003, the Canadian government reviewed its GSP programme which greatly enlarged the product coverage qualifying for duty free entry from the LDCs.

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<sup>7</sup> See WTO Document WT/G6/2/195

- iv) The provisions of the GSP scheme of Japan were also revised twice in 2000 and 2003. These revisions added new lists of industrial and agricultural goods from the LDCs that can benefit from preferential treatment.

The abovementioned developments have rekindled academic interests in the analysis of preferential trade liberalisation. But while agreement exists that there has been a major proliferation especially in the last two decades of the twentieth century, a great deal of disagreements and controversies surround the analysis of their economic impact. It is debatable whether discriminatory preferences increase the welfare of their members or decrease it (Puche, 2000); whether they facilitate or hinder multilateral trade liberalisation (Gavin and Van Langenhove, 2003); and especially in the context of non-reciprocal preferences, whether or not they constitute effective means of achieving the objectives of export growth and industrialisation in developing countries (Panagariya, 2002).

### **2.3. THE MULTILATERALISTS–PREFERENTIALISTS CONTROVERSIES**

These differing positions are principally based on the philosophies of two schools of thought that have come to dominate the post war international trade liberalisation debate. The so-called free trade theorists or the multilateralists' perspective is inspired by the ideology of free market system in which any government intervention in economic activities is considered suboptimal and at best second best. On the other hand, proponents

of preferential liberalisation have been particularly influenced by the upsurge of research on custom union issue and regional integration that have emerged since the 1950s in the wake of the creation of a custom union in Europe.

Indeed, beginning with Jacob Viner's (1950) seminal paper on the theory of custom union, the debate had been flagged off with his insightful analysis of the welfare impact of preferential trading arrangement. The essence of the Vinerian contribution was to show that the welfare effects are inevitably ambiguous because while preferential tariff reductions can enhance global efficiency by encouraging the displacement of an inefficient domestic producer by an efficient member producer (trade creation), a new source of suboptimal allocation of resources can be introduced in so far as preferential treatments can displace imports from an efficient outsider by imports from a less efficient insider (trade diversion). Whether or not a preferential treatment will enhance or reduce welfare therefore depends on which of the two forces of trade creation and trade diversion dominates and this essentially is an empirical question (Appleyard, et al, 2006).

So penetrating was the Vinerian analysis that it framed the research agenda and witnessed further development in the hands of latter contributors like Meade (1955), Lipsey (1958) and Cooper and Massell (1965) among others.



### **2.3.1. The Multilateralists' Position**

To the multilateralists or skeptics of preferential liberalisation, even the contention that a trade creating union is welfare enhancing and desirable has not gone unchallenged. It is argued that since outside countries are hurt by whatever trade diversion (from the outsiders) that takes place, it is difficult from the perspective of global welfare, to accept the thesis of a welfare enhancing trade creating preferential union (Panagariya, 2002).

Furthermore, arguing from the perspective of the political economy of international trade policy, the multilaterals through the works of Grossman and Helpman (1995) and Krishna (1997) have been able to show that trade diversion motivates and drives preferential liberalisation. What is more, the fact that their claim is not just a theoretical nicety but also an empirical reality is supported by Yeats (1996) and Wei and Frankel (1997) whose studies of MERCOSUR and EU respectively turn up significant evidences of trade diversion.

In literatures that emerged subsequent to the second wave of regionalism that swept across the globe in the 1980s and 1990s there was a noticeable move away from static welfare analysis of trade creation and trade diversion to a more dynamic time path issue. In terms of Jagdish Bhagwati's (1993) famous characterisation, the issue concerns whether preferential trading acts as a stumbling block or building block to the worldwide freeing of trade.

The stumbling block perspective of the multilateralists has been most forcefully argued by Bhagwati himself and in joint contribution with Panagariya (Bhagwati and Panagariya, 1996). Preferential liberalisation in the framework of expanding regionalism is seen as contributing towards the fragmentation of trade and entrenchment of powerful blocs who will have no incentive to facilitate or even respect multilateral process. In this way regionalism to the multilaterals, is nothing but stumbling block to the multilateral process.

### **2.3.2. The Preferentialists' Response**

Advocates of preferential trading by contrast downplay the idea of trade diversion that is emphasised in Viner's static analysis in two ways. Firstly, Summers (1991) and Krugman (1991) introduce the idea of "natural trading partners" and argue that most of the serious efforts at integration through preferential liberalisation of trade have been initiated by countries that in the absence of trade preferences are likely to have high trade intensities with each other. In other words, countries that are natural trading partners have been participants to preferential trading in regional settings. In this respect preferential treatment only serves to reinforce existing tendencies and facilitate trade that would otherwise have taken place anyway. As such, the argument goes further that trade creation rather than trade diversion is a more likely outcome.

Secondly, models that incorporate dynamic factors into the analysis of custom union and trade liberalisation as in Corden (1972) and Baldwin (1992) have suggestions to the effect that welfare gains are realistic possibilities. It is argued that when economies of scale and potential increases in investment and technology flows are considered, the presumption is more likely that both partners and the rest of the world will benefit from preferential liberalisation as opposed to the welfare loss that trade diversion would suggest. Hence, it is submitted by proponents that even if a discriminatory preference is trade diverting in the static short run framework, the potentials for efficiency gains in the long run can be substantial enough to bring about a net improvement in welfare.

Response to the dynamic time path issue by the preferential trade apologists has also not been muted. They maintain that preferential trade arrangements are nothing but a move in the general direction of free trade. Part of the arguments presented reason that preferential tariff reductions as discriminatory as they may be in the short run will in the long run eventually facilitate the process of global trade liberalisation and multilateralism. Also by bringing about enlarged market sizes and attendant economies of scale for firms operating in a preferential trading zone, a corresponding increase in firm and national competitiveness should be expected. This as it is argued, is good for trade liberalisation since enhanced competitiveness will neutralise incentives to protect domestic industries thereby making it easier for local authorities to open up markets to foreign competition.

Furthermore, if preferential trade arrangements lead to a tripolar world that is organised around the EU, Japan and US as it is likely, it will be easier to negotiate reduction in

trade barriers among three parties than if all countries enter into negotiations as it is being carried out under the present dispensation (Summers, 1991). The ability of EU to speak with a single rather multiple voices has been recognised as having helped the multilateral process. In short, pro-preferential trade economists contend that the idea of discriminatory reduction in trade barriers is actually a move in the direction of worldwide trade liberalisation and should be seen as a building block to the multilateral process.

Beyond the static welfare and dynamic time path impact analysis, the literature has also not ignored a more nuanced issue of trade-preference effectiveness as a strategy for achieving export promotion and industrialisation objectives of developing countries. This, as mentioned in the introduction, is an issue that lies at the heart of development assistance related trade-preference programmes, or so called NRTPP.

Irrespective of whether trade-preferences are trade diverting or trade creating, whether they facilitate or inhibit multilateral processes, this variant of preferential trade liberalisation seeks to support development efforts in the LDCs through (among others) the promotion of industrial exports. The extent to which this objective has been accomplished has been the focus of a fairly large body literature that has emerged since the programmes' inception. A major issue of interest to this area of research is of course, whether or not NRTPP has been effective in facilitating export (in this study, industrial) of beneficiaries to donors' markets. This performance evaluation literature has also been no less controversial. Depending on which side of the debate you are exposed to, you get the impression that these programmes are either effective or ineffective means of

industrial export promotion and development in the LDCs. In order to appreciate the arguments around this issue we discuss the genesis of the NRTPP concept first in the next section before considering the theoretical basis for the idea that trade policy can serve as an instrument of economic growth and development in Section 2.5.

#### **2.4. GENESIS OF NON-RECIPROCAL SYSTEM OF TRADE PREFERENCES**

The concept of non-reciprocal preferences has its origin in the broader principle of Special and Differential (S&D) treatment agreed to by contracting members of GATT in favour of developing countries. Under the relevant provisions of the agreement, certain exclusive rights and privileges are accorded to developing country members of the GATT. Justification for this special treatment is often rested in the argument that equal treatments of unequal are inherently unequal. Opinion which gained ground among experts in the development community around the decades of the late 1950s and 1960s was ‘that trade on an MFN (most-favoured-nation) basis ignored unequal economic realities among trading nations, especially between developing and developed ones, in terms of stages of development, factor endowments, size of markets, efficiency and diversification of production structures’ (Onguglo, 1999).

The famous Singer-Prebisch thesis that is premised on the notion that developing countries lack capacity to compete in goods other than primary products provides an intellectual support for proponents’ claim. While it has not gone unchallenged, this well-known

doctrine posits that countries of the South suffer a welfare loss from long run decline in their international terms of trade that the authors argue is associated with exporting primary goods. The need to reduce earnings instability associated with such export profile and also to lay a solid foundation for long-term economic growth therefore makes the development of capacities in industrial manufactures imperative<sup>8</sup>. Reflecting the concern that industrial capacities are unevenly distributed between the centre and the peripherals, one of the suggested measures calls for extending special market access privileges to exports of developing countries origin. Raul Prebisch, Secretary General of the first United Nations Conference on Trade and Development (UNCTAD) puts the argument this way:

“Preferential treatments for export of developing countries.... would help the industries of these countries to overcome the difficulties that they encounter in export markets because of high cost” (Prebisch, 1964).

The above ideas as variously argued imply that trade policy can serve as a potent instrument of industrial development. Perception of this sort strikes directly at the heart of the theory connecting trade policy with economic growth: an idea to which we turn in the following section.

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<sup>8</sup> A vast literature exists in economics that supports the notion that the key to economic development is creation of strong industrial sector. The Asian experience for instance is already well documented. A number of recent studies also point to the role of industrial exports in growth acceleration (Hausmann, et al., 2005).

## 2.5. TRADE AND GROWTH

The theoretical underpinnings of NRTPP as an instrument of industrial development can be found in the vast literature on trade and growth. In contributions by Grossman and Helpman (1999) four distinct types of mechanisms by which international integration through trade is related to economic progress are revealed.

First, knowledge diffusion that is critical for adoption of frontier best practice is facilitated through trade interaction. Exchanges of complex technical information about such matters as innovative products, new methods of production, where the best suppliers and financiers are located etc are made possible by contacts that develop through commercial interactions. For its potentials to generate learning spillover of this sort trade is inherently related to technological progress and sustainable development.

Second, when similar economies trade with one another, incentives exist for participants to compete on the innovation front. The need to retain one's competitive edge in trade-driven economic integration constitutes a push factor that drives participants to continue searching for better ways of doing things. Equally likely is the possibility that an enlarged market that results from trade integration brings about higher profit for entrepreneurs which in turn encourages innovation<sup>9</sup>.

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<sup>9</sup> But the possibility of offsetting effect exists especially when the additional demand created for an entrepreneur's products by international trade is cancelled out by an equal amount of encroachment into the entrepreneur's own share of the market by new foreign competitors. In such a scenario, argument that innovation is spurred by larger market-generated increased profit does not hold.

Third, even in the context of dissimilar economies trade can serve as a potent weapon for spurring innovation. This arises when the technology leader uses his advantage to steal market from the follower and in the process increases his own profits. While incentives to innovate on the part of the follower will naturally diminish, the leader will have greater incentives to introduce new products and methods.

However, although the above analysis suggests trade is good for innovation, there are also possible scenarios where trade retards innovation implying that it is not a win-win situation after all. First, in the context of dissimilar economies, a technologically lagging country as previously suggested may find its firms displaced by imports from firms in technologically leading countries. As a result, profitability of their investments and hence incentives to innovate will diminish. Second, a country with abundant endowment in unskilled labour may be forced (as the experience of the LDCs in the 1960s shows) to specialize in traditional low-tech manufacturing. In such case and for such country technological upgrading to hi-tech manufacturing is bound to suffer since she will now have to depend on importation rather production to serve her needs.

Third, it is also likely for a technologically endowed country to find international integration so rewarding that she becomes more complacent with innovation than she would have done in autarky.

The significance of these insights is that trade and trade policies are inherently endowed with growth spillover potentials that do manifest in the form of innovation and efficiency



performance improvements. Such productivity improvements in the context of the performance of NRTPP beneficiaries will inevitably enhance competitiveness and contribute to making export performance sustainable in the long-run. But has this relationship revealed itself in reality? We now turn to a review of empirical evidence for answer.

## **2.6. EMPIRICAL EVIDENCE ON THE IMPACT OF NON-RECIPROCAL SYSTEM OF TRADE PREFERENCES**

From the perspective of impact analysis of NRTPP, it is difficult to say right now that available evidences have borne-out predictions of the above arguments. This is because many of the analysis that have been undertaken so far have limited their focuses to static impact issue of growth in exports and ignored the more dynamic aspect of predicted innovation and efficiency improvements needed to assure sustainable performance in the long run.

As far as the objective of industrial development or so called infant industry protection is concerned, exports growth amounts to nothing if it is only a temporary benefit that cannot be sustained through improved productivities in the relevant sector. A recent paper by Hoekman and Ozden, had summarised the main argument in favour of unilateral preferences (NRTPP) as follows:

“The main role of unilateral preferences is to support infant industry policies and the expansion of exports in manufactures is only a part of the overall industrialisation process” (Hoekman and Ozden, 2005).

It follows that if the impact of a preferential initiative is to be meaningful, it must be able to translate temporary market access advantage into enhanced capacity and competitiveness of the industrial sector. It is only at this point that the preference induced export growth can become a sustainable permanent benefit. Any comprehensive assessment of impact must therefore take into consideration, all the relevant dimensions of industrial development by looking not only into static impact issues of export growth but also the dynamic long-term benefits of enhanced efficiency performances.

The picture coming from the existing body of evidence however reveals a literature that is still wanting in appropriate research framework. Many preferential initiatives have been adjudged as successful or as having failed on the basis of static export performance analysis. Generally, two basic evaluation techniques can be discerned from existing literature. The first and by no means the more critical view attempts to explain why most schemes have not achieved their set objectives. The major arguments in support of this position are presented in sub-section 2.6.1. The second approach relies on empirical inquiry and this is discussed in sub-section 2.6.2.

### **2.6.1. Casual Explanations**

Some analysts have proceeded from the premise that most programmes have failed or would fail on the basis of perceived inherent shortcomings of these schemes. Some of the important shortcomings that have been mentioned in past researches include:

1. Imposition of too restrictive rules of origin by the preference giving country thereby making utilisation of market access privileges difficult
2. Inadequate supply capacity on the part of the beneficiary countries
3. Inclusion of non-trade related criteria as condition for qualification and
4. Unpredictability of many schemes with regards to such matters as product coverage; built-in reviews; and length and durability of market access (UNCTAD, 2003; Panagariya, 2002).

Because this approach relies heavily on casual explanation as opposed to more formalised analytical model or employment of rigorous empirical technique where hypothesis can be formulated and tested, it has a qualified appeal within the research community.

### **2.6.2. Empirical Inquiries**

This brings us to the second group of studies and what is perhaps the most widely utilised performance evaluation approach. Empirical analysis of economic phenomenon is a very

powerful technique in economics and within the context of trade preference impact assessments, analysis have evolved along three broad dimensions: partial and general equilibrium studies; descriptive techniques; and gravity and other models.

#### **2.6.2.1. Partial and General Equilibrium Studies**

These studies rely on historical data to simulate the possible effects of preferential trade liberalisation on export performances of beneficiaries. In one such analysis, Clague (1971) develops a partial equilibrium model to estimate the impact of a possible 50 per cent reduction in some major industrialised countries tariff on developing countries exports. Utilising data based on 1965 trade flows, Clague finds that such reduction would increase total exports of LDCs manufactures (finished and semi-finished) by 19%.

Another study by Baldwin and Murray (1977) examine the trade expansion effects of GSP schemes under three possible scenarios. In the first scenario, quantitative restrictions on imports are assumed and the estimated model with 1971 trade data shows a 29% increase in exports of the GSP beneficiaries to US, and Japan, and only 25% to the EEC. When the assumption of quantitative restrictions is relaxed, the trade expansion effect of the scheme on LDCs exports bound for the US and EEC market increased by 45% while those for the market in Japan increased by about 142%. The third scenario is examined under the assumption of expanding coverage to all industrial products except apparel,

petroleum and shoes. For both Japanese and US schemes, further gains in LDCs exports would have amounted to some additional 57% and 16% respectively.

Macphee (1987) also adopts three alternative scenarios similar to Baldwin and Murray's approach to examine the effect of GSP on LDCs exports and finds them to be export enhancing in all three cases.

Other important partial equilibrium analyses that have been cited in the literature include the works of Pelzman and Rousslang (1982), Sawyer and Sprinkle (1984), Rousslang and Lindsey (1984), and Pelzman and Schoepfle (1986). These authors' different estimates of the impact of Caribbean Basin Initiative (CBI) on exports of qualifying countries to the US predicted a somewhat positive outcome. Pelzman and Rousslang utilise 1979 trade data and find that the CBI scheme could increase beneficiaries' exports by about 11%. Sawyer and Sprinkle on the other hand find export expansion effect of the Initiative to be \$97 million for the top 20 product categories and \$12 million for other product categories based on 1980 trade data.

In recent policy debate on African Growth and Opportunity Act (AGOA), Mattoo, Roy and Subramanian (2002) develop a partial equilibrium model to assess the possible responses of African exports to the trade incentives. Their analysis is carried out against two possible benchmarks: actual trade under the programme with all its restrictiveness (especially as it relates to the rules of origin requirements) and potential trade that would have resulted, had all restrictions on African exports been eliminated. The findings show

that AGOA will raise the level of non-oil exports by between 8-11% depending on the restrictiveness of rules of origin. This is in sharp contrast to what is reported under a fully liberalised AGOA scenario, which shows that non-oil exports would have been higher by about 43%.

However, the usual problem with partial equilibrium framework in failing to incorporate the potential roles of other macro variables like exchange rate and employment into the analysis has been highlighted and admitted as an important limitation of the above studies. Consequently, other studies emerged to take care of this concern. One such study that models the impact of preferences in a general equilibrium setting is Brown (1987). With production, employment, price and trade effect explicitly accounted for in the model, Brown finds that the US GSP led to general improvement in welfare of all beneficiaries except Turkey.

Notwithstanding the improvements introduced by the general equilibrium framework, the studies described above still suffer from a number of shortcomings. First, by utilising historical rather than actual trade data, they have failed to capture the actual impact of the schemes they studied. Second, the assumption of infinite supply elasticity in countries receiving preferences when it is likely that they will be confronted with an inelastic supply response tends to exaggerate the impact predicted. Third, it has also been pointed out that the models are purely static in form and they tend to ignore the dynamic effect of trade preferences (Seyuom, 2006). And finally, by failing to reveal the extent of infant

industry development they have overlooked or ignored a central objective of non-reciprocal trade preference schemes (Brown, 1988).

#### **2.6.2.2. Descriptive Analysis**

A second category of studies uses descriptive statistical techniques to investigate actual trade data and in a way overcomes one of the major criticisms of the partial and general equilibrium analysis mentioned above. Major works undertaken with this approach utilise ex-post data to investigate the impact of preferences. Thus Karsenty and Laird (1987) employ detailed UNCTAD data and conclude that the GSP programmes in 1983 stimulated exports of GSP receivers to GSP donors' markets by about 2%. Both Young (1972) and Qaterra (1973) also adopt similar approach in separate studies of the trade benefits of the EEC's preferences to a group of Associated African Countries (AAC). Their results suggest modest positive impact on the AAC's exports.

Shapouri and Trueblood (2003), pose a somewhat different empirical question in an assessment of the AGOA scheme. The two authors had sought to understand why some countries are more successful in taking advantage of the programme better than some others. Using simple statistics of trade flows, the authors find that: (1) how well-targeted the programme is to the existing export profile of a country; (2) ability to attract FDI; and (3) the extent of economic diversification are the major determinants of successful programme utilisation. To underscore the fact that rules of origin need to be liberal if

preferences are to be effective, Brenton and Ikezuki (2004) compute statistical averages in their analysis of the initial and potential impact of preferential access to the US market under the AGOA.

### **2.6.2.3. Gravity and other Models**

The third category of empirical research adopts a more rigorous and more refined regression technique. Among works that can be counted include that of Pelzman (1983), and Sapir and Ldunberg, (1984) which generally belong to the old school. Both works have however been criticised for reflecting only the short-term effects of the GSP programme they studied since data used cover a relatively short period of time following the commencement of the programmes.

Nilsson (2002) however improves on this in his study of the EU preferences to developing countries. A gravity type empirical framework is developed with a focus on undertaking a comparative assessment of the effect of the Lome Convention and GSP on exports of developing countries. The study uses actual trade data from 1973 to 1992. The usual hypothesis of positive export expansion effect is confirmed for both programmes with the Lome Convention having a slight edge in terms of performance over the GSP.

Empirical works on AGOA by Nogue and Staats (2003) and the more comprehensive assessment of all US preferential programmes by Lederman and Ozden (2004) are also



modeled in the gravity framework. Though Lederman and Ozden confirm a statistically significant result for export stimulation effects of most programmes they studied, Nogueira and Staats's analysis falls short of an optimistic positive assessment. They reason that the inconclusive nature of their findings could possibly have been influenced by the fact that the initiative was still at its infancy at the time of their study.

Seyoum (2006)'s contribution to the literature focuses on US GSP and its effects on beneficiaries' exports. Factor analysis and multivariate regression analysis are employed to investigate the hypothesis that US GSP tariff concessions have a stimulative effect on export of LDCs. Efforts were made to improve on the shortcomings of earlier works by including a large number of products and countries in the sample and using more recent data that the author believe can pick up the long term effect of the programme. The result concludes that the preference programmes are a success because the hypothesis of a positive impact on beneficiaries' exports is confirmed

## **2.7. SHORTCOMINGS OF EXISTING LITERATURE**

While Seyoum's study can truly capture some of the dynamic effects of preferences on beneficiaries, reliance on export performance as a yardstick may however not be sufficient to tell us the whole story. Rolfe and Woodward (2005) echo this point in an earlier paper when they challenge the acclaimed success of AGOA in revitalising apparel manufacturing and trade in Africa. Field research carried out in Southern and Eastern

Africa reveals not only that these countries' apparel firms were still operating at an inefficient frontier relative to their competitors in Asia, but also that local value added were still very negligible at the time of the study. As a result of these findings, Rolfe and Woodward argue that the increased export performance might have arisen less from competitive advantage than from temporary protection that will erode with time. They sum up their findings this way:

“... export value and growth often used to gauge the successes of preferential trade agreement like AGOA can be misleading”.

The tendency to focus on export flows and ignore the more fundamental efficiency in production that has characterised researches in the past raises important question on the adequacy of existing framework and knowledge. It leaves one to wonder whether preoccupation with export performance as a yardstick for judging the success of preferences necessarily reveals the underlying transformation that is supposed to be taking place in the export industry, or it simply leaves a gap that needs to be addressed.

As Hoekman and Ozden (2005) put it:

“A key question in assessing the effect of preferences is whether they help create industries that are viable- i.e., can survive the removal of preferences, either as the result of unilateral actions or MFN liberalisation (such as tariff reductions or the abolition of the final ATC quotas at the end of 2004). If they do, the preferences have helped nurtured

infant export industries and achieved their goal. If they do not they provide only a temporary increase in income, ‘rents’ from the higher price attainable in the protected market.”

In another contribution to the debate, UNCTAD also notes:

“One generally considers that market access preferences generate effective benefits when structural (durable and sustainable) socio-economic progress has taken place as a result of the treatment granted. Such progress usually implies that investment in the relevant economic sectors has been encouraged, and has translated into job and income creation while *strengthening innovative and productive capacities*<sup>10</sup> (UNCTAD, 2003).”

If the debates surrounding the performance evaluation literature are anything to go by, there is no doubt that a new research approach is needed. This study therefore proposes a new framework that can help address the above concerns of analysts by accommodating the sustainable aspect of NRTTP assessment in its analysis.

## **2.8 CONCLUSION**

The chapter explains how the literature on trade preferences has evolved overtime. Attempts have been made to capture some of the significant economic impact with particular emphasis on the non-reciprocal system of preferences. An important insight

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<sup>10</sup> Emphasis is mine.

generated from the literature review is that the jury is still out on the analysis of the impact of NRTTP on industrial export development in beneficiary countries.

While the theory of the relationship between trade and growth recognises that trade can spur innovation and make export performance sustainable, extant literature on programme assessments seems to have ignored this dimension of research. In the light of this, the chapter suggests that there is need for a new framework that can accommodate the sustainable or dynamic aspect of impact assessment in its analysis. The next chapter elaborates more on this issue in great details.

## CHAPTER 3

### INDUSTRIAL DEVELOPMENT IN GLOBAL NETWORKS: AN ANALYTICAL FRAMEWORK FOR ASSESSING THE IMPACT OF TRADE PREFERENCES

#### 3.1 INTRODUCTION

“In order to understand the dynamics of development in a given place... we must comprehend how places are being transformed by flows of capital, labour knowledge, power, etc, and how at the same time, places (or more specifically their institutional and social fabrics) are transforming those flows as they locate in place specific domains. Globalisation... has undercut the validity of traditional, state centred-forms, of social science, and with that the agendas that hitherto have guided the vast majority of research on economics and social development”

Henderson *et al.* (2002)

The analytical framework for a comprehensive analysis of the relationship between trade-preferences and industrial export development is developed in this chapter. It is not being suggested that the framework that will be proposed is capable of addressing all the myriad complexities of industrial development. Rather, it is a framework that the research argues can deliver a better analytical insight (especially with regards to the dynamic aspect of sustainable export performance) on the problem at hand than existing ones.

To do this, the chapter is inspired by the message of the above quotation and proceeds from the premise that the dynamics of regional industrial development (an implied objective of NRTPP) is being transformed by modern globalisation in ways, which have profound implications for the validity of traditional state-centric approach to development studies. Previous researches in economics development in general and industrial development in particular have been dominated by an analytical perspective which puts regional identity at its centre stage. The conventional unit of analysis was the welfare state, which was seen as the omnipotent driver of development that can chart its own course unchecked by extraneous or more precisely globalising forces. According to this perspective, it was a relatively simple matter for sovereign government to promote regional industrial development, because during this era the whole range of activities required to conceive, produce and market a product was essentially a national phenomenon.

But this is becoming less so, as modern production activities are increasingly organised across sovereign boundaries rather than contained within them. Whereas, this is exerting significant restrictions on opportunities for national initiatives that had occupied the centre stage of development strategies in the past, the encroaching influence of globalising forces is fast assuming a pre-eminence status. It is therefore meaningless to continue to view industrial development in a region as an outcome of the exclusive influence of the local rules, institutions, culture or strategies. Instead an approach that simultaneously foregrounds and integrates the global-local dichotomy into a single analytical framework would be required for any meaningful discussion on industrial

development or analysis of schemes that are designed to promote it. In other words, a kind of perspective that allows answers to be provided to questions raised by the increasing importance of aspects of developmental processes hitherto relegated by conventional framework is needed for the task at hand.

In recent contributions to development economics research, a number of authors have made this point clearly by emphasising the need to integrate the impact of globalisation into any framework designed for the study of industrial development. Such an approach, it is argued, will require a research agenda that takes the focus beyond the individual or national firm to the international dimension of business networks (Birkinshaw and Hagstrom 2000; Borrus *et al.*, 2000; Rugman and D'Cruz 2000; Ernst and Ozawa 2002; Coe *et al.*, 2004)

Based on the foregoing, the network theory is hereby presented as the analytical framework for the present undertaking. As an analytical departure, the theory is in every way compatible with the global-local nexus that is suggested above. Its idea is built on the understanding that for organisation to operate, it has to enter into relationships with other actors in the environment. Central to the argument of this theory is the thesis that actors are embedded in networks of interconnected social relationships that offer opportunities for and constraints on behaviour. Outcome is therefore understood as a function of the relational embeddedness of economic agents in a wider social context.

The logic of networking precisely that of global production network theory will be used to develop the kind of framework that is needed to analyse the relationship between trade preferences and industrial export development.

The rest part of the chapter is organised as follows. Section 3.2 discusses the idea of modern globalisation that serves as the catalyst for the infiltration of network theories into the study of economic development. This should set the stage for a review of the network concept that is taken up in Section 3.3. Here particular emphasis is given to the concept of network organisation, which is more relevant to the analysis of industrial development in the context of modern globalisation. Having done that, Section 3.4 lays out the basic attributes of this form of organisational (network organisation). In 3.5, major theories that have utilised the logics of network to explain the organisation of modern industrial production and how such organisation is affecting development outcomes in regions are considered. It becomes clear from this exercise that the Global Production Network (GPN) theory presents a very useful technique for analysing the prospects for regional industrial development. The final section of the chapter, explains how insights gained from this GPN framework can help us develop a framework for analysing the impact of programmes that are designed to promote regional industrial development or more precisely, industrial export development.



## **3.2 GLOBALISATION AND THE NOTION OF SYSTEMIC INTERDEPENDENCE**

Contemporary discussions on globalisation are polarised between two opposing schools: the globalists and the skeptics. The notion itself does not in anyway represent any new phenomenon as early conceptions can be found in the writings of many nineteenth and early twentieth century intellectuals such as Saint-Simon, Karl Marx and MacKinder (Held and McGrew, 2005). What is novel however, with the current debate is the emphasis on economic power of the welfare state that the globalists contend (and the skeptics contest) is fast being eroded by globalising forces.

Since this is not a thesis about globalisation debate but rather an attempt to draw attention to its relevance for the present undertaking, it follows that many of the legitimate concerns raised by the skeptics will not be addressed here<sup>11</sup>. Much of the analysis that is undertaken is inspired by the globalists' view of the workings of international economy partly captured in Modeski's (2005) characterisation that the widening and deepening of systemic interdependencies amongst nations, civilisations and political communities is a reality of the modern capitalist world.

The main feature of the globalists' perspective is the contention that the contemporary world is experiencing a radical transformation in the spatial organisation of social relations across national borders. In terms of the intensity and extensity of this

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<sup>11</sup> This is not to be interpreted as contempt for what is otherwise a valuable insight. In the contrary, it is an admission of a potential weakness of the present study.

transformation, activities (essentially production) across the globe are now assuming the dimension of networks and flows in ways which have significant implications for the exercise of power between the welfare state and transnational actors (Held, et al., 2005).

This form of systemic global interdependence called globalisation in Dicken's view differs from the internationalisation process of the earlier episode. Whereas internationalisation involves no more than the simple extension of economic activities across national boundaries reflecting essentially quantitative changes, globalisation on the other hand moves beyond mere geographical extension of economic activities to functional integration of such internationally dispersed activities reflecting mainly qualitative changes (Dicken, 2003).

Gereffi (2005) elaborates the arguments of the globalists further in his own attempt to distill the nature of global integration in recent era from that which preceded it. Prior to 1913 the eminent scholar argues, global interconnectedness was characterised by shallow integration activities manifested mainly in form of trade in goods and services between independent firms and through international movement of portfolio capital. The present era is qualitatively different in that deep integration involving the cross-border production of goods and services in value-adding activities is its dimension. Most contributors to thesis of modern globalism agree with Gereffi that important revolutions in communication and production technologies as well as trade and investment liberalisation witnessed around the last quarter of the twentieth century are the major catalysts to the emergent new system of cosmopolitan production.

From all these accounts, one gets the impression that national boundaries no longer act as ‘watertight’ container of the production process but rather sieves through which extensive leakages occur. This conclusion is perhaps best articulated by the following quotation from Dicken:

“...Today, fewer and fewer industries are oriented towards local, regional or even national markets. A growing number of economic activities have meaning only in a global context. Thus, whereas a hundred or more years ago only rare and exotic products and some basic raw materials were involved in truly international trade, today virtually everything one can think of is involved in long-distance movement. And because of the increasingly complex ways in which production is organised across national boundaries, rather than contained within them, the actual origin of individual products may be very difficult to ascertain.” Dicken, (2005).

Attempts to make sense of the new globalism have led to the emergence of a plethora of studies, each seeking to interpret the perceived events in its own way. As the argument of the network is the underlying framework for most of the theories that emerged, the concept of network is first presented in the next section before elucidating on its important contributions to the study of economic development.

### **3.3 THE NETWORK PARADIGM**

A network can be defined as a set of actors connected by a set of ties (Borgatti and Foster, 2003). The actors often referred to, as nodes can be individual, work groups or organisations. Also for the ties to be considered a network tie or relationship, it has to be ongoing in the sense that transactions are repeated and not a once-off episode like those that are typical of market relationships.

The central argument of the network perspective is that these actors or nodes are engaged in some forms of relationships with each other that the character of such internodal connectedness often structure behaviours and their consequences. As a result, any informed analysis of human behaviour would have to move beyond the individualistic utilitarian tradition to a more embedded and contextual focus.

Since its emergence in the social science literature in the late 1970s, the network theory has been used to explain a number of social phenomenon where the value of relational and systemic dependences rather than essentialist or individualists profile matter for economic outcomes. Typically studied around this broad theme are several interrelated issues that it is sometimes difficult to explain one without implying another. Depending on their objectives, different analysts have employed different classification techniques that they believe best suit their needs. However, for the purpose of this exploration, the discussion is structured around three categories of issues using a modified version of Borgatti and Foster's (2003) classification. These are identified accordingly as:

1. Social capital
2. Embeddedness theory and
3. Network organisation.

As will be seen, much of the emphasis is on the network organisation, which is the underlying framework for most theories of global networks that are discussed in the latter part of the chapter.

### **3.3.1. Social Capital**

Usually interpreted to mean the value of connection in organisation research parlance, the concept of social-capital describes the kind of advantages or privileges that accrue to someone or group by virtue of association with others. The social-capital perspective to networking has been usefully applied to management studies. After more than a quarter of a century's work, we are beginning to understand that; the social connection or social network of people may be related to such significant outcome as power (Kilduff and Krackhardt 1994), or job promotion (Burt, 2000), or job performance (Mehra et al, 2001) and even leadership effectiveness (Ouchi, 1980).

Extant research in macroeconomics models social capital in a growth accounting framework to argue that it is a source of total factor productivity (i.e. Solow residual). However, unlike the restricted interpersonal tie that is implied in organisation research

literature, the kind of tie that is implied here relates to the overall attributes of a society's social interaction<sup>12</sup>. In Collier (1998) for instance, social-capital is perceived as the internal social and cultural coherence of a society, the norms and values that govern interactions among people, and the institutions in which they are embedded. Interactions or networks that build trust, reciprocity, co-operation, co-ordination and above all facilitate good governance are perceived by growth economists as having the potentials to reduce information and transaction costs sufficiently enough to make human and physical capital more productive.

### **3.3.2. Embeddedness Perspective**

The allusion made above to cultural and institutional values of a society already blurs the distinction that is made here between social-capital and embeddedness perspective in network literature. This is because the tenet that socio-cultural factor matters for any analysis of behaviour is very central to the logic of the embeddedness model.

Emerging principally from the dissatisfaction of many sociologists with the narrow view of economic action held by neoclassical economists, this perspective contends that mainstream economists have largely ignored the sociological motive of economic action.

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<sup>12</sup> This dichotomy has been interpreted in some quarters as a difference between 'bridging' form of social capital and 'bonding' form of social capital. Whereas the bridging form describes the value of an actor's external ties to others, the bonding view focuses on collective actors' internal characteristics (see Alder, P.S. and Kwon, SW. 2002. "Social Capital: Prospects for a New Concept", *Academy of Management Review*, 27 (1): 17-40 for details)

It is claimed that economic actions like all other actions are socially situated in a wider cultural and institutional context. By assuming that individuals act in complete isolation with no recognition of the influence of the wider institutional environment within which agents are embedded, economic models are criticised as having provided an under-socialised account of human behaviour (Granovetter, 1985; Uzzi, 1996).

On the other hand, those who attempted to bring social motive into focus did so in over-socialised way. Here, individuals are perceived as being so embedded in social-environment that actions are overwhelmingly driven by the forces of existing norms and values with little or no consideration for rationality. The explanations of both under and over-socialised account of economic behaviour are considered to be inadequate because they present extreme views of human action. They are deemed wanting in their neglect of relational component of action, which places individual behaviour in an embedded network context.

In trying to advance his own view of human actions Granovetter argues that most behaviors are closely embedded in networks of interpersonal relations and that 'economic actions and outcomes, like all social action and outcomes are affected by actors dyadic relations and by the structure of overall network of relations' (Granovetter, 1992). The emphasis on relational element thus brings into proper view the role of such non-economic values as trust and reciprocity, cultural values and norms in explaining human behaviour (Powell, 1990; Smitka, 1991).

In sum, the message of the embeddedness perspective to the literature on network is that because of the embedded nature of human in a wider social context, it is not sufficient to explain his actions only in terms of atomist or individualist utilitarian considerations. Rather, an explanation that factors in all the relevant fact of his embeddedness as may be defined by such social considerations as trust; reciprocity and others will be required to provide a sophisticated account.

### **3.3.3. Network Organisation**

“Of all the phenomena that have gripped the business world in recent years, few match the impact of networks. Quite literally, networks are reshaping the global business architecture. In the ongoing evolution of the dominant organisational paradigm and mode of competition along the continuum of single autonomous firms to dyadic alliances to networks to virtual companies, the current period is marked by a growing prevalence of the network form of organisation. The ubiquity of networks, and networking at the industry, firm, group and individual levels has attracted significant research attention”

Parkhe, et al., (2006)

Network studies have also extended to the way and manner by which people and businesses organise resources for the accomplishment of objectives. Until the mid 1970s, perceptions within the sphere of economics were that the firm is a black box that is to be understood purely as an input-output mediating agency. However, from the late 1970s



and early 1980s onward, the constituents of the black box began to be revealed with contributions from fields as diverse as sociology and institutional economics. Though early interpretations confined economic mode of exchange organisation to the two extremes of markets and hierarchies, the network paradigm as a distinct form of production organisation emerged as fallout from two important developments.

First, there were empirical observations on the prevalence of this form organisation in the outside world. The scholarly community had been particularly fascinated by the worldwide competitive success of Japanese *Keiretsu*<sup>13</sup> that seemed to rely on extensive network form of organisation. An obvious issue that confronted scholars and other stakeholders alike was whether or not the relative success of these conglomerates could be explained by their distinct way of organising production activities around a network form (Lincoln et al, 1996; Gerlach, 1992).

Second, network organisation theories have also resulted from the fallout of the tension between sociologists and mainstream economists on what constitutes the correct interpretation of economic actions. Whereas, both sides agree that networks are alternatives to market and hierarchical form of organising production, disagreement still exists on how to characterize the new form of exchange organisation. Are networks simply hybrid manifestations of market and hierarchy built in the utilitarian tradition of market logic as claimed by the transaction cost economists such as Williamson (1991)? Or they simply constitute quite distinct form of organisations with own logics and value

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<sup>13</sup>*Keiretsu* is a Japanese term for a conglomerate headed by a major Japanese bank or one consisting of companies with a common supply chain linking wholesalers and retailers

orientation that depart from the economic tradition as argued by sociologists like Powell (1990)? It does not fall within the stated objectives of this dissertation to make further headway in this area. Rather, what is attempted in the next two sub-sections is a brief exposition to the positions and arguments of these opposing schools in the continuing efforts to understand the capitalist mode of exchange organisation.

### **3.3.3.1 Oliver Williamson and the Transaction Cost Approach**

Oliver Williamson's work on transaction cost economics leads the way in the modern development of economists' perspective on exchange system. Originally inspired by insight from Coase's (1937)<sup>14</sup> contribution to economics of exchange, Williamson (1975, 1985) develops a concept of transaction cost which he argues determines whether a market or hierarchical form of exchange will prevail at any point in time. According to this approach, three basic elements: uncertainty; asset specificity; and frequency which affect the costs associated with writing, executing and enforcing contracts determine the efficiency of any exchange form. When these costs are sufficiently high, it means the costs associated with market form of exchanges will be high and it will fail to provide an efficient mechanism. Therefore the hierarchy form of organisation will prevail. In the contrary, when these costs are low, the market system of exchange will be attractive from

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<sup>14</sup> Coase's (1937) work on the origin of markets and hierarchies represents the intellectual foundation on which Williamson's views are developed. According to Coase 'The operation of a market costs something and by forming an organisation and allowing some authority (an "entrepreneur") to direct the resources certain marketing costs are saved' Bradach and Eccles (1989) interpret these marketing costs to mean the costs associated with determining relevant prices and negotiating and concluding contracts

the logic of efficiency consideration and will prevail over hierarchy. This framework has implicit assumption that both market and hierarchy are two mutually exclusive events.

However, in subsequent contribution that was inspired partly by growing empirical significance of the co-existence of both market and hierarchy or what is called the hybrid organisation, Williamson refines his earlier model of exchange by accommodating a third case scenario. Williamson (1991) argues that a possibility exists for an intermediate level of uncertainty and asset specificity to prevail. When this happens, transaction cost is neither high nor low but lies somewhere between the two. Efficiency considerations will therefore make both hierarchy and market mechanisms to be sub-optimal and give way instead to a compromise middle ground. The resulting form of organisation will combine aspects of hierarchy and characteristics of market to produce a hybrid network organisation or what he calls relational contracting.

So, in the framework of transaction costs economics, the logic of market efficiency where agents respond to utilitarian incentives of cost minimisation guides the foundation and operation of the three exchange systems that include network form of organisation.

### **3.3.3.2 The Sociologists' Arguments**

Criticisms of the neoclassical view that Williamson's transaction cost approach represents emerge principally from sociological perspective to organisation network.

Contrary to the sentiments of cost minimising efficiency consideration enunciated in the logics above, these critics argue that networks are built on quite different kind of motivations. By their various accounts, it is revealed that trust, reciprocity, reputation, learning and distinct efficiency factors are some of the key considerations and principles that govern the network mode of exchange.

It is argued for instance that a network organisation creates a situation of relational embeddedness where incentives to enrich the relationship through trust and reciprocity becomes paramount (Powell, 1990). An atmosphere of trust, it is further claimed helps reduce transactional uncertainty and creates opportunities for the exchange of goods and services that are difficult to price or enforce contractually (Uzzi, 1996).

Jarillo (1988), in his own study argues and finds support for the claim that trust and reputation are important considerations in the formation and governance of strategic network alliances. Furthermore, the evidence that mutually beneficial non-financial rewards are present alongside economic incentives in the governance of dyadic alliances is contained in Larson (1991). Exchange of thicker, unconventional information that fosters learning and other attributes of competitive relevance are found in Larson's study to be an important motivational factor in building and sustaining network alliances. The author himself reports this in the following way:

“It was clear that these exchange structures linked organisations in mutually beneficial, strategic ways. Equally clear was that the reward of immediate economic gain from the

primary and initial economic transaction was dwarfed in comparison with a diffused set of potential rewards from long-term collaboration across a range of projects. These strategic stakes were not easily quantifiable but were nonetheless important. They were future oriented and defined as potential gains that carried with them the possibility of significant and positive impacts on the long-term competitive position of each company. The range of strategic motivations for co-operation that ultimately emerged was not necessarily obvious or fully present at the beginning of the relationships. However, as each governance structure matured, strategic motivations became fundamental to the firm's willingness to commit to a long term relationship and to invest in the costs of its maintenance" (Larson, 1991).

By drawing our attention to these alternative views on motivations and governance of network organisation, scholars of the sociological lineage have provided a justification for the relevance of non-economic considerations in the study of network organisations. In what follows an attempt is made to define properly what a network organisation is and what its key attributes are.

### **3.3.3.3. Network Organisation Defined**

Generally speaking all hierarchies are networks and all markets are networks. This idea, which flourishes from the premise that both hierarchy and market are extreme forms of network, posits that all organisational forms can be represented by the basic network

analytics of nodes and ties. In a pure market for instance, each participant is an actor or node that lacks ties with one another. On the other hand, a hierarchy is a dense network of actors or nodes that maintain thick ties with each other.

To put the idea of network organisation in a very robust context, the definitions provided by some experts in this line of research are presented as follows:

Podolny and Page define a network organisation as:

“Any collections of actors ( $N > 2$ ) that pursue repeated, enduring exchange relations with one another and, at the same time, lack a legitimate organisational authority to arbitrate and resolve disputes that may arise during the exchange” (Podolny and Page, 1998).

Another view considers network organisation as:

“... long-term purposeful arrangements among distinct but related for-profit organisations that allow those firms in them to gain or sustain competitive advantage” (Jarillo, 1988).

Yet in the opinion of other writers, network alliance is seen as organisations:

“... adapted to unstable conditions, when problems and requirement for action arise which cannot be broken down and distributed among specialists' roles within a hierarchy.

...Jobs lose much of their formal definition. ...Interaction runs laterally as much as vertically. Communication between people of different ranks tends to resemble lateral consultation rather than vertical command and omniscience can no longer be imputed to the head of the concern'. Attewell and Rule, (1984)

As these definitions imply, varieties of arrangements that include outsourcing agreements, board interlocks, joint ventures, franchises, alliances, business groups, research consortia among others will be referred to as network organisation. But while it seems a difficult task to capture all kinds of arrangements that fit accurately into the definition of network organisation, we can at least extract from the literature some of its basic defining attributes.

#### **3.3.3.4. Attributes of Network Organisation**

1. Network organisation is an ongoing process of interaction and not a solidified pattern of exchange relationship. As Yeung (1994) describes it, a business network is “an integrated and co-ordinated set of *ongoing* economic and non-economic relations embedded within and among outside business firms”.

The ties that connect actors and nodes are in a continuous process of change. As new actors and objects enter the network, new structures are formed and old ones replaced. From development analysis perspective, the implication of this dynamism should not be

lost. It can be inferred that the window of opportunity offered to a poor country by its linkage with international networking activities of firms can be transient. The literature on Global Value Chain (GVC) that will subsequently be reviewed in sub-section 3.4.3 has used this concept to model the development implications of a network connectedness for developing countries.

2. Non-economic factors like trust reciprocity and reputation are important co-ordinating mechanisms in network organisation. Trust and reciprocity are very important to the formation and nurturing of a successful tie. They help build confidence that other side can be relied upon for performance and that opportunistic behaviour will not be embarked upon by partners. During the mature phase of an embedded tie, preservation of organisational reputation and integrity becomes as important as economic exchange itself. Empirical relevance of the importance of trust and reciprocity as well as personal integrity is contained in several papers (Walker, 1988; Doz, 1988; Hakansson and Johanson 1988)

3. Asymmetric relationships often characterise many network ties. One party to the network may be better endowed in terms of resources and power than other party or parties in the network arrangement. This places significant control in the hands of the more powerful partner to dictate and influence the direction of the network. This kind of asymmetry can be observed in the pattern of relationship between multinationals and poor developing countries over the years. Because of the vast amount of resources in terms of capital, knowledge, connections and other bargaining power at their disposal,



these companies have been known to drive network ties in their favour. Recent evidence on these tendencies for multinational corporations to engage in opportunistic behaviour of the kind described above is contained in Rocha and Almeida (2007). Their work had compared the performances of pulp and paper manufacturing TNC subsidiaries with those of the local firms on sustainable development in Brazil. They find that relative to their local counterparts, the transnational firms scored low on environmental preservation.

4. Network relationship fosters learning and technology transfer in organisation. Because of their disposition to close-knit pattern of relationship, vast amount of information that the market cannot provide is transmitted through the network (Powell, 1990). Also strategic co-ordination of activities that is sometimes carried out to improve performances is conduit for skill acquisition. One good illustration of this point can be found in Larson (1991). In his study of the network structure in an entrepreneurial setting, Larson reports the observation of one of his respondents this way;

“Close relation with our partners are strategically very important because the joint project allows us to introduce new product features to the market before the competition”.

While the idea of learning is consistent and coincident with technology improvement, a number of papers conceive network alliances as *access relationship*. It has been argued that access to technological know-how of a technologically more sophisticated firm is facilitated by a network alliance. Stuart (2000) for instance, observes that corporations

eager to acquire device or manufacturing technology from their strategic partners have forged many of the horizontal alliances in the semi-conductor industry in the US. Proceeding from this premise, the author goes further to examine the relationship between corporate alliance and productivity of a focal firm. Though his paper emphasises the importance of specific attributes of an alliance partner as determinants of successful technology transfer, he nevertheless confirms the hypothesis that strategic alliances are conduits for technology transfer or productivity improvements.

Powell et al (1996) on the other hand finds evidence in support of the notion that companies in network relationships do experience accelerated growth rates in their operations. Larson (1990) also describes how a more established large company (with bureaucratic impediments) in a network tie used a small high growth firm as a source of technical and procedural innovation.

5. Network organisations also enhance operational efficiency. The argument that is most directly related to this view is the transaction cost hypothesis of Williamson and others.

It needs be repeated here that a desire to reduce cost of exchange transaction is what the mainstream economists see as the driving force of network organisation.

6. Network organisations are co-ordinated by both internal and external institutions. Here, recognition is given to the fact that the internal governance mechanism of a network dictates its course, character and structure. This point has been most strongly emphasised by Gereffi and others whose works on the GVC analysis have had tremendous impact in

the analysis of the new globalisation (Gereffi, 1999). On the other hand, the embeddedness perspective to network theorising is of the view that all social activities and phenomenon including network organisations are embedded within a larger social and institutional structure that offers opportunities for, and constraints on behaviour. Thus, it is to be expected that a wide array of national institutions that can represent everything from practices and conventions to more formal institutions like the state and labour market can exert considerable impact on activities of network firms embedded in their region.

Building on the above insights of the network concepts in general and network organisation in particular, many researchers in social sciences have employed its basic arguments to model the economic organisation of production activities in capitalist economy. Of particular relevance to our interest in this study are those models that seek to explain how modern production activities are organised in global networks and how these networks are transforming the dynamics of industrial development in local regions. The next section reviews some of the major contributions of social scientists in this continuing area of research.

### **3.4 GLOBAL NETWORK THEORIES AND INDUSTRIAL DEVELOPMENT**

Basically, the literature on network theory of organisation can be classified into two groups. On one hand are those that use the chain terminology to describe the various

linkages that exist between different aspects of production activities, and on the other are those that use the network term. Within the group of chain analysis, we can find Michael Porter's Value Chain, the French *Filiere* and the Global Commodity/Value Chain (GVC) studies.

The works of scholars that employ the network characterisation are captured in contributions to the Global Production Network studies. Two main contributors to this line of research are Ernst and Kim (1999, 2002) and Hernderson, et al (2002; 2004).

#### **3.4.1. Michael Porter's Value Chain**

The value chain approach to the study of organisation conceptualises production as a vertical linear chain of interconnected activities that are needed to transform a product from conception to consumption. Though, it is an old well-established concept in industrial economics and business literature, the value chain achieved its modern prominence through the works of Michael Porter (1985; 1990).

Porter uses the term value chain to describe the set of intra-linked or inter-linked value adding functions required for the production and marketing of products and services. These value-adding activities are distinguished into several stages or processes, namely: the supply process, the production process, and the support service process.

1. The supply process includes inbound logistics, operations, outbound logistics, marketing and after sales services.
2. The production process refers to the process of carrying out those activities that are required to transform input into output and includes production, logistics, quality and continuous improvement process.
3. Finally the support services are identified as those activities that are of an auxiliary nature. These are activities like strategic planning, human resource management, technology development and procurement that are needed to support the firms' primary activities.

Porter further extends the analysis beyond the level of an individual firm to industry-wide level and makes the case for a systemic view of an industry. According to this view, a single company cannot perform all activities from product design, production of components, assembly and delivery to final user. Instead all firms within an industry perform functions that are linked to others in a model of value adding system.

Perhaps the most important insight of Porter's work vis-à-vis network analysis is the emphasis on intra/inter-firm linkages, which he believes are crucial for corporate success. But beyond that, it is of limited utility to the study of economic development, as it pays no attention to issues of corporate power, the institutional contexts of – and influences upon – firm-based activities or to the territorial arrangements (and their profound

economic and social asymmetries) in which the chains are embedded' (Henderson, et al, 2002).

### **3.4.2. The French *filiere***

The *filiere* is another concept that has employed the chain idea to describe the flow of physical goods and services in the production of output. Originally developed by French scholars in the 1960s, its emergence can be attributed to the empirical study of contract farming and vertical integration in French agriculture. It was later applied to the analysis of agricultural policy of colonial French and much later in the 1980s to her industrial policy in areas of telecommunication and electronics.

With respect to its concern for quantitative technical relationship, the early *filiere* concept had close affinity with Porter's value chain/system. Its analytical superiority over the latter however lies in its modern emphasis on the role of regulative mechanism and institution. Recent input from the regulationist school has given modern *filiere* analysis a political economy flavour that is very useful in the analysis of economic development (Bartoli and Boulet, 1990; Boyer, 1990). This notwithstanding, the approach has been criticised for paying insufficient attention to the role of social actors as it does to the technical side of the material flow. For instance, among the whole range of social actors who coordinate a network, only two of these: the state institutions and large firms are considered in *filiere*. A *filiere* is also considered to be lacking in dynamism, essentially

reflecting relations at a certain point in time. All these combined with a lack of global perspective in most *filiere* studies have made its relevance to the study of economic development very limited (Raikes, et al, 2000).

### **3.4.3. The Global Value/Commodity Chain (GCC) Analysis**

To a very large extent, the emergence of Global Commodity Chain perspective (GCC) in chain analysis has enhanced the study of industrial organisation and economic development in ways superior to previous chain approaches discussed above. Unlike the *filiere* for instance, it considers the role of several actors in its analysis. But perhaps, more important is the conceptualisation of the organisation of industrial production within a cosmopolitan or global context. It is this global flavour especially that makes its relevance to the present study unrivaled by previous chain theories. However, in order to have a good appreciation of its contributions, it is useful to first examine the basic argument of GCC before subjecting it to a critical evaluation.

Emerging from the intellectual tradition of dependency theory, the term ‘commodity chain’ was originally used in Wallerstein’s (1974) world system theory and in later contributions by Hopkins and Wallerstein (1986). To Hopkins and Wallerstein a commodity chain is ‘a network of labour and production processes whose end result is a finished commodity’. To be locked in a commodity chain implies that each firm is either producing input for others, or is consuming input from others. However, in the wake of

the new international division of labour that became prominent in the last quarter of the twentieth century, Gereffi and Korzeniewicz (1994) transform the concept of a commodity chain into a logically consistent and empirically verifiable analytical tool to describe the functional integration of production activities across the globe and hence the term 'Global Commodity Chain'.

As an analytical framework, the GCC describes the full range of activities needed to bring a product or service from conception through production, to marketing and delivery to final consumers. According to Gereffi and others these activities are configured in 'sets of inter-organisational networks clustered around one commodity or product, linking household, enterprises and states to one another within the world economy'.

In the analysis of international trade to which the early GCC framework applies, its main analytical components are identified as consisting of the input-output structure, the geographical coverage, and the governance structure. By far the emphasis is overwhelmingly on the governance structure and the role of lead agents in setting-up global production (input-output structure) and sourcing network (chain geography).

Within the chain governance analysis, distinction is made between buyer-driven and producer-driven chain with the claim that, it is the global buyers (as in buyer-driven) and transnational producers (as in producer-driven) that determine the overall character of the chain. As dominant firms, they wield the utmost power and determine trade and development outcomes for participants in the chain (Gereffi, 1999). To Gereffi and



others, a buyer-driven commodity chain is regarded as having greater developmental impact potentials over the producer-driven chain because of the inclination of its governors to require full package sourcing networks.

In latter contributions to the development of the theory, the institutional framework of the chain is stressed (Gereffi, 1999). It is argued that opportunities exist for lower-tier suppliers to upgrade from their subordinate status to lead players. But even here the learning opportunities that will facilitate this process depend on the willingness of chain governors to externalise more functions to suppliers upstream. So based on the proposition of GCC, regional industrial development has to be read off from the logic of corporate power governing a commodity chain. This power as it is claimed lies with the chain governors.

Arguably, the most important strength of the GCC approach can be found in its analytical ability to transcend the limitations of state-centred forms of analysis to which previous chain oriented studies have been bounded. But like other previous studies, it is also not devoid of its own weaknesses in development analysis. Some analysts have pointed to a number of observations:

One, the framework is bounded in sectoral relevance. Most GCC studies have been carried out in relation to specific sectors such as apparel, footwear, automobile, semi-conductors etc. It cannot therefore be accepted as an ideal model relevant for the study of any global network phenomenon.

Two, the framework has largely ignored the historical or path dependent context of manufacturing activities and instead focuses on the emergence of a new global manufacturing system that dawned in the second half of the twentieth century.

Three, the importance of firm ownerships and their implications for economic and social development in a particular society have not been given a deserved attention.

Four, and by no means the most important criticism, the GCC approach considers, the firm as the only important node in particular location. The institutional and social contexts within which firms are embedded and their bearing on commodity chains operations are by implication assumed to be of little or insignificant consequences. As far as the GCC framework is concerned, regional development has to be understood strictly from a corporate perspective as may be determined by chain driver. So it matters less for firms incorporated into a production network to have independent strategies, even though such strategies may be material to the possibilities of industrial upgrading and economic development (Henderson et al, 2002). This particular shortcoming may be interpreted as a reflection of the structural weaknesses imposed by the GCC and all chain frameworks where inter-firm linkages are captured and interpreted as linear chain rather than complex network of relational activities.

### **3.4.4. Global Production Network Studies**

If the chain frameworks are haunted by their structural restrictions because they conceptualise the process of production and distribution as being essentially vertical and linear, the Global Production Network (GPN) analysis presents an approach that delivers a superior conceptualisation. With its focus on the nature and extent of inter-firm relationship, this perspective conceives such relationship not as a linear vertical chain but as a highly complex network of multiple inter-relationships that could be vertical, horizontal and even diagonal in outlook. In this way, the GPN has been able to overcome one of the major criticisms of chain analysis. Two prominent contributions to the development of this strand of research are found in the works of Ernst and Kim (1999; 2002) and Henderson et al (2002; 2004)

#### **3.4.4.1. Ernst and Kim**

The idea of a GPN was first introduced by Ernst (1999) and in subsequent joint contribution with Kim (Ernst and Kim, 2002). Their works can be described as a preliminary exploration of the GPN concept in the study of globalisation.

Dissatisfaction with the narrow view of existing chain studies that place so much emphasis on the network flagship (chain governors) at the expense of lower-tier suppliers to the flagship firms or so called ‘flagship bias’ led the authors to propose a framework

that is more revealing. The network model that results captures cross-border production alliances as a network of global production activities that:

‘... links together the flagship’s own subsidiaries, affiliates and joint ventures with its sub-contractors, suppliers, service providers as well as partners in strategic alliances’ (Ernst and Kim, 2002).

Arrangements that result from the above description are not easily given to a linear structure classification. They often involve a complex set of intricate linkages that are better described as network rather than chain relationship. Furthermore, the definition also reveals that a production network is not only about flagship firms but also about other service providers like power, communication and water supply agencies whose activities are crucial to the viability of the network. As a result of this, the authors advocate for a research agenda that equally explores the implications of globalisation on lower-tier network suppliers that are mostly located in the developing countries.

#### **3.4.4.2 Jeffrey Henderson, Peter Dicken, Martin Hess, Neil Coe and Henry Wai-Chung Yeung.**

Arguably, the most elaborate response to Ernst and Kim’s call to date is found in Henderson and his collaborators’ contributions to the development of the GPN framework (Henderson, et al 2002; Coe, et al, 2004). Their concept of a GPN is perhaps best illustrated by the following quotation from one of their works.

They define a GPN ‘as the globally organised nexus of interconnected functions and operations by firms and non-firm institutions through which goods and services are produced and distributed. Such networks not only integrate firms (and parts of firms) into structures which blur traditional organisational boundaries through the development of diverse forms of equity and non-equity relationships, but also integrate regional and national economies in ways that have enormous implications for their developmental outcomes’ (Coe, et al 2004).

What is striking for our purpose is the emphasis placed on regional development and the roles of firms and non-firm institutions alike. Globalisation through network alliances of firms is seen to affect regional development in ways the GCC framework had not contemplated.

Henderson and co-reject the unidirectional view of the GCC approach, which appears to view chain governors as the all-powerful, all-knowing omnipotent driver of development in the regions. They give explicit recognition to the fact that local actors (firm, government, labour union and other economic agents) sometimes have different priorities vis-à-vis profit, growth and economic development which can be articulated into strategies that will have serious implications for network activities and hence development potentials in regions where networks touch down.

Regional development in their framework is therefore seen as “a dynamic outcome of the complex interaction between territorialised relational networks and global production networks within the context of changing regional governance structure”

The way the interactive process (that ultimately determines development in the local economy) is played out by these global and local actors is very intriguing. It is claimed to occur through a dynamic process of value-creation, value-enhancement and value-capture/retention. But before explaining the meaning of all these, it is necessary to pause and reflect on the concept of value as implied in their work.

#### **3.4.4.2.1. The Concept of Value**

Essentially, value emanates from both the Marxian notions of surplus value and the more orthodox notion of economic rent. Economic rent is described in Kaplinsky and Morris (2001) as the ability to insulate oneself from competition, which can arise either through possession of scarce resources, or certain attributes that involve barriers to entries. The different forms of economic rent that the above definition will suggest are identified in Kaplinsky and Morris as follows:

1. Technology rent: This implies having control over scarce technologies
2. Human resource rents: It is a form of rent that has to do with having access to better skills than competitors.
3. Organisational rents: It relates to possessing superior forms of internal organisation

4. Marketing rents. Another form of rent that is associated with having better marketing capabilities or valuable brand names than competitors
5. Relational rent: Is the notion of having superior quality relationships with suppliers and customers.
6. Resource rents: It implies access to scarce natural resources
7. Policy rents: These are associated with operating in an environment of efficient government or developmental state that creates barriers to entry of competitors such as using protectionist trade policies.
8. Infrastructural rents: Access to high quality infrastructures and
9. Financial rents: A kind of rent that guarantees access to finance on better terms than competitors.

A major hypothesis of the GPN framework is that the mediating role of local institutions is important for the creation, enhancement and retention of these values in region specific locations<sup>15</sup>. As key local actors, institutions like the local authorities, development agencies, labour organisations, growth coalitions etcetera are required to mobilise regional assets to fit the competitive needs of key actors in global production networks. It is only when strategic coupling of this sort is achieved, that development in the context of global production networks can be expected to trickle down to regions. How such a

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<sup>15</sup> It is important not to lose sight of the significance of this hypothesis as it resonates very well with Abramovitz's social-capability argument that was briefly mentioned in Chapter 1.

coupling effect is actualised will be understood when we consider each element of the value processes.

#### **3.4.4.2.2. Value-Creation**

The creation of value is defined as the process of creating economic rents that fit the needs and requirements of global networks. Network actors are continuously looking out for strategic locations where outsourced activities can be carried out most efficiently. It is often the case that when a place guarantees access to scarce resources and other capabilities or facilitates penetration into strategic growth market, some important competitive requirements of the global network would have been met.

On the other hand, it is also true that regional economies are locked in competitive relations with one another to attract the location of externalised network functions into their regions. According to the thesis of the GPN, success in this regional drive, i.e. articulation of local economy into a global production network will therefore depend on the extent to which local institutions can unleash regional potentials to create the kinds of rents that will attract the location of GPN functions into the region. For instance, educating and training of local work force can constitute an important regional asset that is capable of attracting a network function into a locality. In the empirical example that is used to explain the framework, Henderson and others describe how the availability of



skilled labour at relatively lower cost in Eastern Bavaria attracted BMW to build an assembly plant in the region.

Another form of value-creation that is more directly linked to institutional factors as well as the theme of the present investigation is economic rent that results from product scarcity or asymmetric access to a foreign market created by protectionist trade policies (trade policy rent). In the context of foreign market access privileges that preferential trade policy rent guarantees for instance, value is created when such incentives facilitate the performance of a network function in the beneficiary home country.

#### **3.4.4.2.3. Value-Enhancement**

However, there is a danger that value created through trade policy or any other form of rent may not be sustainable for beneficiaries at least in the medium term. Global network production is continuously in a state of flux as activities are configured and reconfigured depending on the competitiveness of network locations. To say that footloose production is a defining attribute of network firms is to state the obvious (Gibbon, 2003). As new more competitive locations emerge, old ones are dropped and factories are dismantled and moved to new locations.

Also global buyers have similar tendencies to switch from old established suppliers to new more competitive ones as soon as they are discovered. Brazil's leather shoe

industry's experience in the 1980s is a relevant example. For more than two decades, the industry in *Sinos Valley* which specialised in women's shoes was connected to some large retailers in the US through the activities of major buyers in the network. But once competitive abilities began to emerge from China, these global buyers switched their patronage and began to source their goods from China thereby undercutting Brazilian producers (Kaplinsky and Morris, 2001). The chance that a region will be able to sustain its relevance to GPN and by extension the value it has created depends on how competitive it can remain. This will require a continuous process of improvement and upgrading to keep competitors at bay.

Value-enhancement essentially involves the whole process of improving on, and upgrading the value created through increases in efficiency performances of organisations. This is usually accomplished by the extent of technology transfer that is facilitated by global network connectedness. Such a development occurs when major firms within the network that are more technologically advanced help bring about productivity improvements or technological sophistications of the local firms. Technological transfers can be achieved through learning by interaction, or provision of direct technical assistances by the lead firms to support local upgrading.

Also important for value-enhancement is the possibility that exists for higher value added activities in the network to be attracted and located in a focal region. Although, this is an issue that also connects value-enhancement activities with the prospects for value capture that will soon be discussed in sub-section 3.4.4.2.4 under the caption: value-retention.

The BMW example mentioned above is also used to illustrate how such a possibility can materialise.

Having located its assembly plant in Eastern Bavaria, and finding the local institutional context conducive enough for its strategic needs, the BMW decided to implement the Just-In-Time production system. Because the co-location of suppliers is required to make the strategy work, BMW deployed its bargaining power as a major buyer to persuade its first-tier suppliers like the US based Lear Corp and Modine, to establish operations in Bavaria. This sets the stage for a clustering of activities with potentials to transform the region into an industrial hub and makes possible the realisation of efficiency gains normally associated with industrial clustering to begin.

The role of regional institutions is again emphasised here as an important mediator for value-enhancement prospects. When these institutions are prepared to invest in human resources, chances are high that skill profile of local workforce will be high and attractive to global scouts. This can have a positive spillover effect on the ability of local employees to learn from the activities of their more technologically advanced firms located at other nodes in the network. Efficient physical infrastructures like stable power supply, good roads, functional communications etcetera, also represent infrastructural rents that can spur value-enhancement activities through the location of more value added functions in the region.

#### **3.4.4.2.4. Value Retention**

Even if sustainability in the medium-term is guaranteed because value created has been enhanced, there is also another danger that longer-term sustainability may be compromised if value is not retained or captured by the region. Value is captured when network firms in region specific locations become integrated or embedded with the local economy in ways, which compromise their footloose status.

Local embeddedness of this kind, would naturally involve investment by these firms in long-term capital assets that are difficult to relocate within a short period of time. Or probably through the formation of backward linkages with local suppliers such that the glue that ties the network firms more firmly into the locality is provided.

For developing countries especially, the prospects of assuring longer-term sustainability of value created and enhanced are dim. Foreign owned firms carry out most of the local industrial activities that are connected to GPN. These firms as suggested earlier operate like ‘cathedral in a desert’ with few links to the economies of their host region. What is at stake therefore, according to GPN framework is how to ensure that these organisations are integrated into their environment so that the benefits they bring into the economy becomes sustainable in the much longer-term.

This is where the issue of power distribution comes into the analysis. Foreign multinationals that operate in developing countries are especially well known for their

enormous bargaining power through their control over resources and ability to obtain and process information at global level (Dicken, 2003). Regional institutions on their part have control over regional assets that can be mobilised to meet the strategic needs of network actors. The more the regional assets fit into the competitive needs of network operators, the higher the bargaining power of the region and the higher the chances that value created and enhanced will be captured for long-term sustainability. Ultimately then the prospect for value capture or retention depends on the balance of power between regional institutions and network firms. It is thus incumbent on local institutions to enhance their bargaining power through well-developed and well-adapted regional assets.

### **3.5. VALUE DYNAMICS AND THE ANALYSIS OF TRADE PREFERENCE EFFECTIVENESS**

At this juncture, it is inescapable to ask what is probably an obvious question: What do we learn from the above contributions that can be considered useful in the analysis of trade-preference effectiveness? In as much as one of the key objectives of these programmes is to facilitate industrial export development in beneficiary countries, there is a lot to be learnt from the insights of the network literature especially the GPN model.

The appropriateness of extant impact analysis framework where it is taken for granted that value-creation (argued in the next chapter to be a function of export performance) sufficiently reflects the extent of programme successes or failures is questioned here.

From the contributions of the GPN framework, we now have reason to argue that export performance (value-creation) is just one dimension in the analysis of trade-preference effectiveness, which may not be sustainable in the medium term if it is not enhanced (value-enhancement). However, both creation and enhancement of values are also not sufficient conditions for sustainability in the long run. To be sufficient these values need to be captured or retained in the region. This adds a third dimension to the analysis (value-retention).

In the next two chapters (Chapters 4 and 5) the theoretical issues involved in the economics of value-creation, value-enhancement and retention within the context of preferential trade impact analysis are discussed.

**CHAPTER 4**  
**VALUE CREATION IN THE CONTEXT OF ASYMMETRIC MARKET ACCESS**  
**PRIVILEGES**

**4.1. INTRODUCTION**

The aim of this chapter is to discuss the theoretical issues involved in the economic analysis of value creation vis-à-vis preferential market access privileges. This will serve as a useful guide for the empirical analysis that is undertaken in chapter six. It is important to recall that the reference model discussed in previous chapter identifies three elements that are essential to the analysis of trade preference effectiveness: value-creation; value-enhancement; and value-retention. The first of these issues, value-creation or what is described here as the static impact dimension of the framework is taken up for consideration.

In chapter 3, the thesis also points out that value-creation involves the attraction and subsequent performance of a network function in a region. For a typically poor under-developed economy, the performance of such function will naturally manifest in export of needed inputs to other value adding network actors located in different countries. For instance, this may be in the form of exporting basic clothing items from a producer located in say, Lesotho to a branded marketer or designer like Gap in the US. To the extent that this is sufficient to articulate Lesotho into the Global Apparel Production Network, the condition necessary for value to be created is deemed satisfied.

In the context of trade-preference impact analysis therefore, one can argue that value creation is a function of export stimulating ability of a programme. In other words, value is created when a preferential trade programme provides incentives that are sufficient enough to facilitate the production and exports of targeted products to beneficiaries markets. It is essentially an issue of static export performance that past researches on trade preference effectiveness have been bounded.

This being the case, the task of determining the extent of value-creation then becomes that of finding out how export performance responses are being explained by NRTTP incentives. To do this, it will be argued that two important factors are crucial for the effectiveness of programmes. These are:

1. the extent to which the effective rate of protection is reduced by NRTTP and
2. the sensitivity of programme to the particular mode of production configuration that governs the targeted sector.

The two sections that follow (Sections 4.2 and 4.3) are devoted to motivating each of these arguments and in order to have an intellectual framework for investigating their predictions Section 4.4 comments on the key variables that are usually included in analysis of export performance determinants. In Section 4.5 the ways by which an investigation of the static impact of NRTTP can contribute to on going debate in the literature are identified. Finally, Section 4.6 summarises the main arguments of the chapter.



## **4.2 EFFECTIVE RATE OF PROTECTION**

In early conception of NRTTP as a trade-related development assistance strategy, concerns were raised by skeptics most notably Gardner Patterson (1965) and Johnson (1967) about its possible effectiveness in the promotion of economic development in beneficiary countries. While not suggesting that asymmetric market access benefits can in principle stimulate exports of targeted products, these concerns as expressed appear to have questioned its practicality as well as consequentiality to beneficiaries.

With respect to the latter, arguments were proffered that preferential benefits might lead to inefficient re-allocation of beneficiaries' resources. For instance, when trade preference causes resources to be shifted away from sectors where comparative advantage of a country lies and moved into sectors where there is no such advantage, this could result in socially wasteful investment.

With respect to the former, the possibility that in reality preferential benefits may amount to nothingness as an instrument of export promotion was first raised by Peterson. In his criticism of the early GSP model which essentially was a tariff based scheme, he argued that potential margins were unlikely to be significant as to cause beneficiaries' export responses to be significant. Even if margins were significant, the attendant administrative costs of compliance as might be captured by rules of origin requirements might be prohibitive enough to make cost of implementation even higher than their benefits.

Part of the envisaged problems of implementation was further raised by Johnson when he suggested that meaningful benefits to developing countries can only come from sectors that are most protected in preference giving countries. Since this is likely to be politically sensitive and highly unlikely to be carried out NRTTP schemes are condemned as inherently unlikely to be beneficial as well. The observation over time that agricultural products as well as textile and apparels were frequently excluded from most schemes appears to have confirmed this fear.

While echoing Peterson's earlier argument Johnson noted that administrative cost of implementation and monitoring may be significant and that the true yardstick for determining the net benefit will be the extent to which effective rate of protection is reduced by preference margin. Thus in discussing preferential benefits in terms of the static impact of value creation that is the focus in this chapter the issue of how sufficiently enough effective rate of protection is reduced becomes central to the analysis.

An effective concession in trade barriers is that which is good enough to encourage utilization of the concession by beneficiaries. However, experience has shown overtime time that most schemes have been plagued by lack of utilization of market access concessions granted. In Table 1 below percentage utilization over an eight-year period (1994-2001) of market access preferences granted in favour of LDCs by major donor countries is presented. An easily noticeable trend is the fluctuation in utilization rate of all countries' schemes. While the lowest average figure of 39 per cent is recorded for the EU, the highest figure or roughly 75 per cent in the table is observed for the US scheme.

But given that the combined utilization average for all the countries is just around 61 per cent, it is immediately clear that the score card of the performances of these schemes is just above average.

**Table 1: Utilization Ratio of market access preferences granted by major donor countries to LDCs (1994 - 2001)**

Year	Canada	EU	Japan	US
1994	N.A.	41.8	94.9	74.0
1995	64.1	48.0	95.1	70.9
1996	46.0	47.5	69.4	69.3
1997	54.7	26.7	72.5	29.1
1998	59.2	26.2	52.2	76.5
1999	59.8	33.7	63.3	91.6
2000	72.7	41.3	38.4	90.8
2001	70.2	46.9	82.1	95.8
Average	61	39	71	74.8
Total Average Utilization Rate				61.45

*Source:* UNCTAD (2003)

*Notes:* (a) Figures are based on member State notifications; (c) figures for Japan are based on fiscal years; (d) figures for the European Union for 1994-1995 exclude Austria, Finland and Sweden; (d) figures are given in percentages.

A number of explanations have been put forward to explain why preferences often fail to deliver well in terms of stimulating beneficiaries' exports. These explanations in the main, call to question the real value of preferences in terms of the effective rate of

protection that is reduced by their margins. Also for the most part the arguments as expressed reflect in general many of the earlier concerns raised by critics. We can organise these reasons around five groups of factors as follows:

1. Rules of origin requirements.
2. Unpredictability of preferences.
3. Subsidies granted for domestic competitors
4. Non-tariff barriers.
5. Supply Capacity

#### **4.2.1. Rules of Origin Requirement**

Arguably the most widely touted explanation rules of origin requirements are theoretically justifiable for inclusion in preferential treaties as incentives to prevent trade deflection. In other words, rules of origin are needed to ensure that the product in question is that which originates from beneficiary's home country and not from any other country that is made possible after superficial conditioning or assembly. From the beneficiary's point of view this ought to be a welcome idea as it confers on them the rights and advantages of exclusivity. But over time this instrument has moved from being a simple anti-deflection incentive to becoming an instrument for creeping protectionism (Cadot and Melo, 2008).

Cadot and Melo (*ibid.*) identify three main ways by which rules of origin as applied in most schemes reduce the value of preferences granted. One, the administrative cost it imposes often result in resource waste and acts as technical barrier to trade. Two, certification costs may discourage the taking up of benefits especially when such benefits are low relative to the potential cost of requesting preferential status. Three, for differentiated products compliance costs may be significantly high where both price and quality differences exist between eligible domestic and non-eligible intermediate goods.

Considerable support exists for the claim that rules of origin have gone far beyond their justifiable role of protecting beneficiaries' export interests to that of undermining the interests ((Olarreaga and Ozden 2005; Ozden and Sharma 2006; Carre`re and de Melo 2006). Recent estimates by Cado and Melo show that compliance costs are very significant as they range between 3 to 5 per cent of the value of final product prices. For preferences that usually carry low value of margins, this cost figure says much about the marginality of their net benefits.

#### **4.2.2. Unpredictability of Preferences**

Value of preferences is invariably affected by the level of certainties or uncertainties surrounding it. In both concept and practice, NRTPPs are laden with much unpredictability.

Because of its non-reciprocal nature the NRTTPP author is always responsible for setting and changing the rules of engagement. This can potentially make the length and durability of schemes uncertain as beneficiaries will always end up finding themselves at the mercy of the donor. Experience with AGOA apparel provision provides good example of this kind of unpredictability and its effect on incentive to invest.

Initially, derogation from cumulation provision of the Act that LDC beneficiaries enjoy was slated to end in 2004 and then changed mid-way to expire in 2007. While writing on the impact of Asian drivers on export-oriented industrialization in SSA, Kaplinsky and Morris (2008) made suggestion to the effect that the instability in investment commitment of Asians to countries receiving AGOA apparel benefits may not be unconnected with the uncertainties surrounding the duration of derogation provision of the Act (Kaplinsky and Morris, 2008)

Uncertainties have also manifested in the area of non-trade related criteria that often accompany these schemes. Again, the recent AGOA Act is a good example of this. Criteria for qualification and disqualification have been designed to include a number of sociopolitical factors by the US. These criteria are also subject to variations with new lists added and old ones dropped depending on the discretion of US government.

If worries about unpredictability are not driven by these two factors they can arise from product coverage of a scheme. Although many of the donor countries have made commitments with regards to products covered under various schemes, uncertainty is

created by virtue of built in reviews that are put in place for their implementations. Depending on the sensitivity and trading performance of particular products or group of products, donors can exercise their option to remove them from coverage.

In terms of their impact on value of preference, these different sources of uncertainties raise the stake for profitability of investment. When potential investments are judged unlikely to be profitable because of uncertainties around export market, it automatically follows that the value of such market incentive is reduced and little will be achieved in terms of export responses.

#### **4.2.3. Domestic subsidies**

This preference value-distortion relates to disadvantages created in the export market for preference receiving firms when domestic firms in import competition sectors are granted subsidies by the donor government. The whole idea of granting preferences is generally to create competitive advantage for receivers in the home market of the givers. But as experience has shown especially in agricultural trade, domestic firms in donors' market are sometimes assisted through subsidies to enhance their competitiveness against importers thereby limiting the value of preferential benefits. It is typically akin to giving with one hand and taking back with another. A World Bank study documents evidence of this preferential value reduction/distortion. In its report, evidence supporting the fact that subsidies granted to domestic agricultural sector by developed countries have had

negative impact on LDCs agricultural production and exports to the former's market is provided (Hoekman, Ng and Olarreaga, 2002).

#### **4.2.4. Non-tariff Barriers**

Varieties of non-tariff barriers have emerged to limit value of preferences and make level of targeted export responses less than its potentials. Whether they come in the form of sanitary and phytosanitary measures or they are environment related a number of technical barriers to trade usually put in place by donor countries have worked to defeat objectives of their assistance programmes.

Compliance with such technical requirements like eco-labeling, packaging requirements, pesticide residue levels etc are especially very difficult for LDCs due to their technical incapacity. It is well known that these LDCs suffer from significant infrastructural deficits such as lack of internationally accredited laboratories for testing, limited scientific capability, skill shortages etc which will be needed to facilitate compliances. These shortcomings diminish in no small measures incentives to respond to preferential stimulus.



#### **4.2.5. Supply Capacity**

Allied with all these is the general supply capacity problem that pervades all economies. Important issues that have been raised in this respect relate to poor quality of road, rail network, port facilities and related transport services, poor power and water supplies, lack of efficient financial intermediation services etc. Shortfalls in these areas can raise significantly the costs of doing business and limit the potentials for supply responses in the context of preferential incentives.

A recent study of the determinants of export performance finds African and Middle Eastern countries as having faced severe supply capacity constraints over the last two decades. Specifically internal transport infrastructure as measured by percentage of paved road is found to be a significant explanatory variable for exports and performance of African countries that fall in the lower class ranking of this variable is found to be worse-off (Fugazza, 2004).

This thus points to the role of supply capacity in nations' abilities to utilize value of preferences. Since these values (NRTTP values) are meaningful in the context of their realisation, one can argue that there can be no value in preferential value that cannot be captured by its targeted beneficiary.

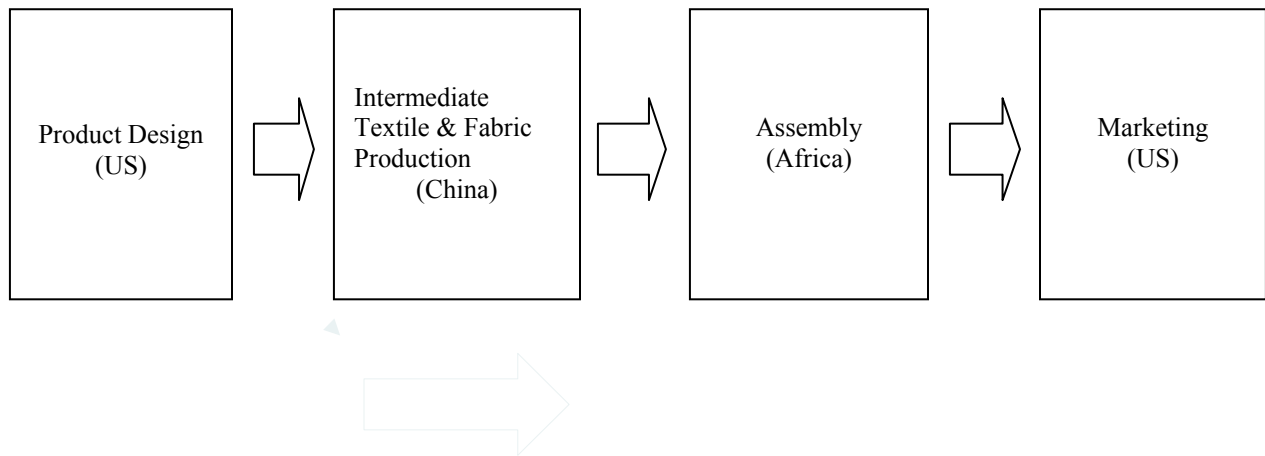
### **4.3. INDUSTRIAL TARGETING**

By industrial targeting we mean that NRTTP incentives must be designed to reflect the spatial organisation of modern production activities which revolve around global networking for it to generate the desired export response. In other words the opinion is that an effective preference is one which allows countries to participate in the modern form of fragmentation and networking of production activities.

The premise of this argument is the current reality of industrial organisation which has evolved over time from geographically contained hierarchical form of production system to a more spatially dispersed production and coordination of value activities. Although this new form of production configuration is not yet a sector wide phenomenon, there are important sectors like apparel, footwear, electronics, automobile etc that are of key relevance to industrial development where value chain system of organisation is the governing mode of production.

Value chain production systems are generally characterized by fragmentation of activities whose domains cut across boundaries. In the organisation of apparel production system as depicted in Figure 2 below, tasks are often segmented into different stages of value where a particular value like design may be performed in the US while textile and fabric production out-sourced to China before being taken to Africa for assemblage.

**Figure 1: A Simple Value Chain for Global Apparel Production and Trade Network**



What is obvious from this form of institutional arrangement of industrial segregation and coordination of activities around value and space is the interdependence among actors in the chain. Activity performed in one node is essentially an input to the next and output of this is a necessary input for another. More specifically, with respect to the table, there can be no textile and fabric production activity in China without input from design function that takes place in the US, just as the assembling function cannot be performed in Africa without the importation of fabric and textile materials from China.

Fragmentation has thus made comparative advantage of countries to lie in narrowly defined area of production activities as opposed to the whole bundle that obtains in previous arrangements. For NRTTP to stimulate exports from a sector like this it must therefore be sensitive to its peculiar form of production configuration. This would mean crafting incentives in ways that will not unbalance the interdependence that exists among nodes located in different geographical boundaries of the production arrangement. In this

respect an obvious candidate of obstruction is the ‘rules of origin requirements’ that has just been previously discussed. By prohibiting import of intermediate materials under the guise of preventing trade deflection, participation in global production network and in effect effectiveness of NRTTP incentives as means of stimulating export performance become difficult to realize.

Evidence supporting this claim is already building-up in the literature. Frazer and van Biesebroeck (2005) perform an econometric analysis of US imports using disaggregated commodity level data. They find AGOA apparel effect with less restrictive rules of origin to be highly significant and accounted for a 51 per cent increase in trade. Collier and Venables (2007) carry this analysis further in their work on the impact of preferential trade schemes on manufacturing exports of SSA. Comparing apparel performance under AGOA (with relatively less restrictive rules of origin) with EBA and using firm level data for 86 developing and middle income countries, they find AGOA variable to be positively significantly correlated with exports. A coefficient of 2 is associated with an increase by a multiplicative factor of 7.4. Contrastingly, the EBA variables included in the model do not have any significant impact and were even estimated with negative signs.

To have a framework for investigating the validity of arguments presented thus far, we present a brief review of the key determinants of export performance which will be introduced in our specification empirical model in Chapter 6.

#### **4.4 DETERMINANTS OF EXPORT PERFORMANCE**

Insights from extant research on this strand of literature reveal the relevance of works on international trade as well as industrial organisation theories to the analysis of firm level export market performances. The dissertation draws on these two schools of thought to identify the key explanatory factors listed here to include:

1. Resource endowments. These are competitive advantages conferred on a firm by virtue of its location in an environment where certain resources say capital, labour or minerals are abundant. Endowments also derive from specific attributes of firms. These include human and knowledge capital; plant size; capital intensity; export commitment and motivation; and membership of a multi-plant group. The expected relationship with exports is that resource endowment confers competitive advantage and impacts positively on export performance of firms.
2. Scale economies. Usually large-scale production activities are associated with enhanced efficiencies, which drive down production costs. This also increases a firm's competitive ability and success in the export market. Therefore variables that proxy for large-scale operations like size should have positive impact on export performance of firms.
3. Geographical distance and institutional quality add to trade costs. They are expected to be negatively correlated with firms' export performances.

4. Policy variables like trade preference programmes reduce artificial barriers to trade and are expected to facilitate market access for potential exporters. In terms of their impacts on export possibilities at plant level, a measure of the value of preferential programmes' incentives should correlate positively with firms' exports performances.

But how will an investigation of the value creation function of NRTTP contribute to the current policy debate in this area? This issue is the focus of the following section.

#### **4. 5. THE STATIC IMPACT ASSESSMENT DEBATE**

Studies that examine the impact of non-reciprocal trade preferences on export performance of beneficiaries are numerous. They usually hypothesise that trade preference variables have positive impact on export performances. Brown (1987) undertakes a survey of such literature and reveals that some evidence exist for the export stimulating impact of the schemes. In another recent survey, Hoekman and Ozden (2005) conclude that the contributions of unilateral preferences to economic performance are quite questionable. The authors criticise the methodological approaches of these past researches as follows;

“A common approach has been to use (i) simulation methods to estimate trade creation/diversion – which are sensitive to assumptions regarding elasticity – or (ii)

gravity regressions where preference status is captured by a dummy variable. However, most studies have severe shortcomings as they fail to take into account that (a) preference rules are often determined at the much disaggregated product level, (b) the elasticity estimate at this level of aggregation is generally absent...” (Hoekman and Ozden, 2005)

There are several ways by which analysis in this dissertation hopes to improve on these shortcomings. Firstly, plant level data will be used to model the impact of a preferential trade scheme on export performance in order to capture the elasticity estimates at the much-disaggregated level. Secondly, estimates at this disaggregated level of the firm should make it possible for the actual value of incentives to be captured. This will hopefully eliminate the problem with modeling preference incentives as dummy variable.

Another important shortcoming with existing evidence on non-reciprocal preferences is that most of the researches undertaken so far focused on GSP schemes. These schemes have been criticised for offering insufficient depth in terms of value of preferences, resulting in a low degree of utilisation (Hoekman and Ozden, 2005). But when assessing the use and impact of preferences, the discussions above as well as the views of some analysts suggest that it is important for researchers to focus on the most valuable ones (Page and Kleen, 2004).

Furthermore, other trade policy experts are also not at ease with the current practice of relying on cross-country regressions as basis for determining the static impact of many preferential trade schemes. For instance, UNCTAD (2003) echoes this point in its

assessments of the benefits that developing countries are deriving from market access preferences this way:

“Meaningful assessment of the effective benefits derived from market access preferences essentially implies country specific examination in each LDC of the causal link between the preferences and their impact on investment and trade flows, and on related socio-economic performances (UNCTAD, 2003).”

Finally, and perhaps more importantly, the current analysis is carried out in the context of our theoretical argument that trade preferences need to recognise the mode of organisation that governs production activities in targeted products.

#### **4.6 SUMMARY**

This chapter argues that the economics of value creation in the context of preferential trade analysis is a function of export stimulating ability of NRTTP incentives. This is what is required to connect a beneficiary into a Global Production Network. In order to analyse the impact of unilateral trade liberalisation programmes on value creation, the relevant strand of trade policy literature has been used to argue that two issues are crucial to its effectiveness.

The first recognizes that its value in terms of the effective rate of protection that is



reduced by preferential margin needs to be significant to stimulate export responses. The central issue in this analysis is that while the nominal value of tariff concessions in many of the existing schemes may be significant, various forms of conditions that always accompany their implementation are often significant enough to raise compliance cost thereby reducing the real value of margins.

The second focuses on the reality of existing mode of production organisation in many sectors that revolve around global networking. Our submission is that for NRTTP to be effective in terms of stimulating targeted exports, their incentives must be designed in ways that are not in conflict with the interdependence that exists among actors in the globally dispersed fragmented value activities. To this end the rules of origins requirement was figured out as a policy with potentials to render programmes ineffective by distorting such interdependences.

To put all arguments made in an empirical context the chapter concluded by introducing some of the key determinants of export performance and pointed out ways by which the present undertaken hopes to inform on-going policy debate in the area.

## CHAPTER 5

### SOCIAL CAPABILITY DEFICITS, VALUE ENHANCEMENT AND RETENTION IN INDUSTRIAL ORGANISATIONS

#### 5.1 INTRODUCTION

The focus in this chapter moves from static analysis of the impact of preferential trade initiatives to a more dynamic assessment issues of sustainable development. A preferential trade policy is worth little if its effects manifest only in temporary stimulation of exports. The goal of industrial export development requires that such policy-induced benefits be made sustainable in the long run. Therefore in discussing the impact of preferential trade schemes on industrial export performance, it is incumbent that our analytical lens transcends the domain of static issues of value-creation to the more dynamic areas of value-enhancement and retention.

But what exactly are the yardsticks for evaluating the value enhancement and retention functions of unilateral trade liberalisation programmes? It is argued in this chapter that the extent to which increased export intensity (that results from the value-creation function of a programme) is translated into enhanced productivity in the relevant sector is a necessary condition for value-enhancement. This position is supported by the logic of the NRTTP itself, which recognises the need to improve on production efficiency, if export performance is to be sustainable<sup>16</sup>.

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<sup>16</sup> Support for the view that efficiency matters is also echoed by the market selection hypothesis, which holds that markets do select efficient firms.

However, in the current system of global production networking, efficiency may not be a sufficient condition for sustainable performance. More often than not, production entities (especially those owned by foreigners) are engaged in opportunistic enclave behaviours with potentials to threaten their long-term commitments to a region. Discussions on value retention must therefore recognise the role of local embeddedness. In so far as such embeddedness is likely to make firms become dependent on their local economy either for supplies of input materials or other kinds of integrated operations, it should follow that the prospects for their longer-term commitment and hence long run sustainability of industrial export performance will be bright.

But, unlike the treatment of value creation in Chapter 4, these dynamic elements of the model (value enhancement and retention) are analysed against the background of social-capability hypothesis of Abramovitz and co mentioned in Chapter 1. Again, it will also be recalled that in Chapter 2, the literature on trade and growth argues that innovation and technological adoption is a main channel through which trade policy influences growth. We interpreted this in the context of performance of NRTTP beneficiaries to mean that enhanced competitiveness which results from such innovation and technological adoption will ultimately make exports under the programme sustainable.

However, technological adoption or its transfer is not as simple as it is conceived in the analysis in Chapter 2. The current chapter will argue that successful transfer of technology is governed by the adequacy of a nation's social capability and that any NRTTP beneficiary whose capabilities in this area are inadequate is not likely to be

successful in adopting the best technological practices of the leaders and sustain its export performances at least in the medium-term (value enhancement). Just as it is also likely that social capability deficits will deprive NRTTP beneficiaries from the much longer-term benefits through the capturing and retention of the dividend of asymmetric market access advantage created by the programme (value retention). We first trace the genesis of the social capability idea by reviewing the convergence-divergence debate in the next section. Section 5.3 focuses on its concepts (social capability) while in Sections 5.4 and 5.5 its predictions for economic performance of nations and empirical evidence on the validity of these predictions are explored respectively. Then the focus moves in Section 5.6 to discussions on the economic mechanism of value enhancement. Section 5.7 does the same for value retention before presenting a concise summary of the ideas examined in this chapter in Section 8.

## **5.2. THE CONVERGENCE – DIVERGENCE DEBATE**

The theoretical underpinnings of technological transfer can be found in the extremely lively debate on economic growth and convergence that have emerged since the classical days. At the heart of this debate is the recognition by all parties that technology matters for long-run economic growth. On the basis of assumption made that the said factor is freely available and costlessly transferable from one country to another, proponents of the convergence hypothesis as essentially captured in Solow model, argue that growth performances in backward economies will automatically and eventually converge with

those in the leading nations. To them, convergence is a simple matter of correcting for the initial differences in capital accumulation. Technology, which is seen as the sole driver of growth in the long run, will freely be available for backward economies to use (Solow, 1956).

Skeptics are however of a different view. They see technology not as a free good but as an endogenous factor whose appropriation is only accruable to its owner. From their point of view, convergence is therefore not an automatic thing and at best depends on the presence of certain enabling factors that can make successful transfer of technology (needed for the long-run growth) from the leaders to the followers possible. These factors as described in Abramovitz's (1986) contributions express several manifestations of a nation's social capability. If they are present insufficient amount there can be a successful transfer of technology. On the other hand their deficits can only imply failure in efforts to appropriate frontiers' best practices.

### **5.3 CONCEPT OF SOCIAL-CAPABILITY**

In the late 1980s when this strand of development theory began to challenge the widely held view of technology transfer as a free good that is costlessly available for appropriation, at its forefront was the economic historian Moses Abramovitz (1985; 1986).

According to Abramovitz the prospect for a successful transfer of technology needed to achieve growth convergence in the neoclassical model is governed by the quality of institutional and attitudinal characteristics that prevail in a backward economy. It goes without saying that different economies exhibit different forms of socio-institutional characteristics that have bearings on potentials to appropriate frontier technology. A country that is governed by those kinds of social and institutional values that do not inhibit but enhance technology transfer is considered to be socially capable and will achieve growth convergence with the advanced economies faster than a country that is less socially capable. Hence, the term social-capability is coined from this viewpoint to explain why convergence may or may not materialise.

Since the pioneering work of Abramovitz, the issue has generated concerns among students of development economics that we now have a fairly good body of literature on the theory of social-capability. Suffice to say however, that the theory is still in its infancy and the current state of our knowledge of the issue requires further refinements (Abramovitz, 1995).

As it is, there is no universally accepted definition of the term. Perhaps, the author's admission several years ago that no-one knows just what it means or how to measure it can still be said to be true today (Abramovitz, 1986). Contributors to this emerging literature have offered several definitions to suit their various purposes. Some of these definitions conceptualise social-capability as:

A nation's attitude to managing its resources in order to contribute to overall economic growth (Baussola, 1997)

1. The institutional factors such as educational systems (which supply the human capital necessary for assimilating spillovers), the banking system (which supplies financial capital for catch-up related investment), the political system etc. (Verspagen 1999).
2. The attributes and qualities of people and organisations that influence the responses of people to economic opportunity which originate in social and political institutions (Abramovitz and David, 1996)

All the above definitions suggest that the social and institutional profiles of a society, which define the macro environment where firms are embedded, do affect operational performances. In analysing the prospects for economic development, advocates of social-capability are arguing that we need to pay attention to the elements of our social and institutional environments. But just exactly how can we expect these elements to impact on the economic performance of nations? This issue is taken up in the following section.

#### **5.4. SOCIAL-CAPABILITY AND ECONOMIC PERFORMANCE**

The relation between social capability and economic performance is captured in two influential contributions to the literature. The first one by Abramovitz emphasises the importance of certain elements of the social infrastructure to the prospects of the

economic progress of a society. The second by Joseph Stiglitz (1995) relates the issue of a society's quality of social organisation to its social absorption capacity and argues that well-developed social systems do a better job of taking advantage of economic opportunities than crude ones.

#### **5.4.1 The Role Social Infrastructure**

In a paper published in 1986, Abramovitz argues that technological backwardness is not usually a mere accident. Tenacious societal characteristics, he argues further, normally account for some substantial portion of a country's failure to achieve as high a level of productivity as advanced countries. These same, shortcomings usually remain in some ways to prevent a country from taking full advantage of technological development and achieve the anticipated economic growth rate that the simple convergence hypothesis envisages.

In his latter work (Abramovitz, 1995) the American author identifies two classes of elements that are essential to the effective functioning of a social system or what can otherwise be interpreted as constituting social-capability. These elements and their relations to economic performance are briefly discussed below.

The first class of elements needed to support economic growth relates to a people's basic social attitude and political institution which includes:



1. An outlook on the world compatible with that of empirical science.
2. Social attitudes and arrangements that form an effective incentive structure.
3. An effective set of political institutions.

For economic growth to be achieved, it is not only necessary for the social outlook and goals of individuals to be compatible with that of modern science which seeks accumulation of material wealth, the incentives structure needed for its realisation must also be well in place.

Government's role in building the social infrastructure of the economy that forms an effective incentive structure is emphasised. Some of these institutional infrastructures like effective conflict resolution systems and good property rights have lately been recognized by the mainstream economists as material explanations for economic performance. If these institutional infrastructures are in weak form, transaction costs will be high. High transaction costs reduce profitability of investments and hence economic performance. Furthermore, by extending the range of strategic intervention needed to provide incentive and support growth to include government investment in physical infrastructure, education and others, Abramovitz is echoing the notion of a developmental state that the old institutional economists have long advocated. Good physical infrastructure and educated populace as we know constitute a form of infrastructural investment that growth economist recognise as important determinants of economic growth.

The second class of elements identified as constituting social-capability is a set of economic characteristics of people and institutions that are directly related to their ability to exploit modern technology found in advanced societies. These are education; experience in the business and administration of large-scale concerns; and efficient capital market institutions capable of providing financial intermediation. Each of these is taken up for further consideration below.

**Education:** The importance of education to economic growth is already well recognised in economics<sup>17</sup>. Education affects a nation's ability to adapt modern technology needed for growth in several ways. One is the requirement that effective operation and maintenance of sophisticated equipments used in industrialised countries equally demands sophisticated skills and knowledge that can be achieved only through schooling or training.

Secondly, modern production systems are also characterised by specialised functions that place a new demand on the need for effective communication between functional supervisors and co-operation among workers. It is also true that supporting activities like administration, accounting, personnel, banking; insurance and legal services are part of today's industrial engineering. All these underscore the need for an educated population to provide these services in an economy.

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<sup>17</sup> See Easterlin (1981)

**Competence in the administration of large-scale concerns:** The argument above can be criticised for placing too much attention to formal aspect of human capital development. It is not only through formal education that skills necessary to manage organisations in efficient manner can be developed. Experiences acquired through learning by doing as emphasised by Arrow (1962) or through social interaction among supervisors as advanced by Nurske (1963) are part of the requirements needed for managerial competence. However, since an important feature of modern production system is size, it is necessary that these skills be relevant for managing large-scale enterprises where there is an extensive division of functions into purchasing, manufacturing, personnel, accounting legal etc.

**Capital market and intermediation:** In order to provide support for the kind of industrialisation that modern technology requires, another element in the social-capability of a society is its capital market institution. The role of the capital market in mobilising savings from the surplus unit to the deficit unit is being carried out in modern days by a variety of institutional arrangements developed overtime to overcome specific shortcomings of traditional arrangements. From traditional savings institutions and commercial banks the range has widened to include insurance companies, pension funds, finance companies, brokerage firms etc. The efficiency of these institutions in performing their roles necessarily has a bearing on the performance of business organisations. Weak capital markets mediation constitutes a drag on the ability of an economy to finance its investment and draws back its rate of economic development. On the other hand a strong

institution of financial intermediation enriches the ability of the economy to support investment opportunities, which are required for economic development.

All the above elements and their importance to modern economic management necessarily presuppose that development in any meaningful manner requires their presence in sufficient forms. A society's success or failure in adopting the technology of the advanced industrialised countries depends on the adequacy of its social-capability.

Abramovitz's submission in this respect is perhaps best captured in his own words:

“An adequate degree of social capability – in levels of education, business experience and capital market institutions – is needed to initiate a process of sustained growth. ....If these are not present in adequate degree, development if it takes place at all may proceed only slowly.” (Abramovitz, 1985)

#### **5.4.2 Social Organisation and Social Absorption Capacity**

In another very insightful contribution to the theory of social-capability, Joseph Stiglitz describes how differences in the form of social organisation can explain the different economic outcomes that society experience.

Describing how the concept of externalities can affect economic performance as they imply multiple equilibrium, path dependence or myopia, Stiglitz argues that some economies may be trapped in low-level equilibrium. Since there is nothing in the neoclassical model that tells us what equilibrium level a society settles at, the argument goes further that it is history, beliefs of the people and culture that determines this. A proactive social organisation that manipulates its institutions and legal regimes in strategic development manner, the Nobel Laureate finally submits, can do a better job of steering the economy towards a higher level of equilibrium.

Stiglitz's (1995) exposition also draws attention to the role of economic organisation in enhancing social absorption capacity. According to him, how efficiently a society deploys available resources or absorbs development opportunities and adapt to newer and better techniques are all determined by the nature of economic organisation governing the system of production.

Stressing further the importance of economic organisation, Stiglitz diminishes the attractiveness of large-scale argument as explanation for differing growth experiences of countries. To him, economic performance has more to do with the system of organisation that is put in place to manage resources than with the actual level of resources. His argument is illustrated by the following quotation from his paper:

“... The difference between developed and less-developed countries lies not just in that the more developed countries have more resources. It is not just a matter of the larger

scale of economic activity. Economic organisation is crucial in the sense that economic organisation affects the social absorption capability of a society: it affects its ability to deploy resources efficiently, and it affects its ability to innovate, to adapt newer, improved technologies, to produce product that were not produced – at least within the country – previously” (Stiglitz, 1995).

## **5.5. EMPIRICAL EVIDENCE**

But is there any evidence that social-capability does matter for economic performance as advocates would want us to believe? In this section, a brief survey of the literature that has attempted in one way or another to test the claim of the social-capability hypothesis is presented.

It is useful to begin the discussion of the empirical literature on social-capability with reference to Abramovitz’s empirical observation in the early stage of the development of the concept. In an initial sample of 16 advanced countries following the World War II growth boom of 1950 to 1973, Abramovitz, observes a tendency towards convergence with the technological leader that was the US at the time. Conditional convergence hypothesis posits that backward countries in terms of per capita income and lagging technological advancement should exhibit faster economic growth than their more developed counterparts. All the backward countries in the sample advanced more rapidly than did the technological leader (US) thereby confirming this hypothesised relationship.

But when the sample is enlarged to cover the entire world, the discoveries are revealing in a number of ways:

1. A clear tendency to converge is observed only among the small set of highly industrialised countries.
2. Among the larger group of partially industrialised middle income countries no such tendency could be discerned
3. And within the poorest group of economies there are even evidences of divergence.

Trying to make sense of this puzzle, Abramovitz points out that, technological backwardness is not a mere accident but an incidence of certain tenacious societal characteristics to some extent. These same factors usually remain to prevent the backward countries from making the full technological leap usually envisaged by development programmes. He then qualifies the propositions of the convergence theory as follows:

“Having regard to technological backwardness alone leads to the simple hypothesis about catch-up and convergence.... Having regard to social-capability, however, we expect that the developments anticipated by that hypothesis will be clearly displayed in cross-country comparisons only if countries’ social capabilities are about the same. One should say, therefore, that a country’s potentiality for rapid growth is strong not when it is backward without qualification, but rather when it is technologically backward but socially advanced” Abramovitz, (1995).

Other scholars have also taken up various issues raised by the theory on empirical front. An early study by Heitger, (1993) employs simple statistical averages to show that Japan's catch-up with Europe and North America was influenced not just by the technological gap separating them, but also by favourable social conditions in terms of her social capability that allows her to successfully exploit best practice technology from abroad. Other successful Asian countries like Hong Kong, Singapore, South Korea and Taiwan, the study further argues followed similar strategy employed by Japan to join the convergence club. Heitger concludes by recommending that it is important for other countries lagging behind to improve social-capability and create favourable investment condition for convergence to take place. Policies to achieve this range from increasing the stock of human capital, high degree of openness to an optimal level of government share.

Aoki (1995) extends the concept of social-capability to include an economy's capacity to adapt to changing circumstances. In his work, the role of financial institutions and the coordinating role of government are acknowledged as explanatory factors in Japan's development experience. In another attempt to explain the post Korean-War (1950 – 1953) economic success of South Korea, Koo (1995), attributes credits to certain elements of the social environment. These have to do with social values and attitudes, education and the role of institutions in mobilising these elements.

A recent study that analyses the impact of accession to the European Union (EU) on Central-Eastern European economies has also lent credence to the importance of social-capability in economic performance. Dyker (2001) observes that contrary to expectations,



memberships in the Union have had very marginal impact on various indicators of economic performance of accession countries. He blames this failure on significant deficiencies (in accession countries) in elements of social capability needed to adopt the advanced technology of highly developed members. By his admission, the narrow focus of the study on the R&D systems and the banking systems as proxies for social-capability represents a critical limitation. In a related paper written jointly with Slavo Radosevic, et al., (2001), the authors present a study of the transition countries to show that the catch-up process is hampered by specific gaps in social-capability and elements of technological congruence.

Villaschi (2004) also investigates the impact of market-based reforms on industrial performance in Brazil over the last 40 years. Evidence reveals that while the liberalisation policies and openness have helped to improve the industrial and technological capabilities of firms, there have been little or no improvements in innovation capabilities. Weakness in the country's social-capability where there was very little co-operation between firms and universities/training centres is seen as the main cause of this deficiency. To Villaschi, public policy in the areas of education, R&D and industrial development to improve the country's social-capability and steer the economy towards the path of high-level competitiveness is needed.

More formalised empirical models are captured in some studies. For instance, Turtora (1991) develops a catch-up model in order to investigate the hypothesis of social-capability as predictor of growth rate. Social-capability is defined in terms of literacy rate

for a worldwide sample of 109 countries. Six different groups of countries emerged from the sample on the basis of their *social readiness* as captured by the literacy rate variable. The model estimated consists of a regression of the average annual growth rate in labour productivity from 1960 to 1985 on a country's level of GDP per worker in 1960. Convergence is found to be present only in the most literate and slightly above average literate groups. This finding thus confirms the claim of social-capability proponents (Turtora, 1991).

Temple and Johnson (1998) use some indexes of social development constructed by Adelman and Morris (A-M) in the early 1960s and documented in Adelman and Morris (1967) to proxy for social-capability. In the original A-M study, the authors had sought to understand the interactions between political and social arrangements and economic growth. 41 indicators of socio-political, economic organisations and development were constructed of which 24 were not purely economic.

After performing factor analysis on these non-economic variables, they constructed four factors and the first one explained about 53 per cent of the variation in per capita GNP in 1961. In this factor the set of variables, which had the highest predictive power, were twelve. These include: size of the traditional agricultural sector; extent of dualism; extent of urbanisation; character of basic social organisation; importance of indigenous middle class; extent of social mobility; extent of literacy; extent of mass communication; degree of cultural and ethnic homogeneity; crude fertility rate; degree of national integration and sense of national unity; and degree of modernisation of outlook.

Based on the individual scores for the first factor, sampled countries were then divided into three groups. The group of countries with the lowest factor scores was observed to be the most primitive in terms of socio-economic development. The second group with relatively higher scores was composed of countries exhibiting more advanced socio-economic features. Finally, the most socially advanced countries were found in the third group with the highest factor scores.

Using the A-M measures of socio-political development as proxies for social-capability, Temple and Johnson, three decades later are able to confirm its basic hypothesis that social development matter for economic performance. In particular, they find that countries with higher factor scores and having approximately the same income per capita around the time of their measurement exhibited faster economic growth (Temple and Johnson, 1998).

To recap the message of social capability literature discussed above, all the various ideas as expressed point to one important conclusion: successful accomplishment of economic objectives is mediated by the influence of certain social and institutional infrastructures which are required to be present in sufficient amount. Deficiency in the supply of these non-economic assets creates obstacles in the wheels of economic progress and can ultimately prevent societies from realizing their development targets. As we shall see subsequently, these arguments have important implications for the economics of value enhancement and retention that are taken up next.

## 5.6. ECONOMIC MECHANISM OF VALUE ENHANCEMENT

Based on the economic model of NRTTP the mechanism by which efficiency necessary to guarantee sustainability of exports is expected to be improved is based on the same concept of technology transfer emphasised in trade policy theory (discussed in Chapter 2) and qualified in social capability hypothesis that has just been explained above.

Consider a given developing country say *country A* that wants to develop its apparel industry to compete on at global level. An important assumption is that *country A*'s apparel industry is characterized by small scale operations due to the small size of domestic market or the fact that the country is still in its early growth stage. Because of this, ability to achieve international competitiveness is constrained by inability to access larger market as a result of higher relative production costs inherent in small scale operations. Assume further that another country say a developed *country B* offers to lower its tariff on apparel imports from *country A* below the MFN tariff rate which the rest of the world (*country group C*) pays. This has created an artificial cost advantage for a hitherto cost disadvantaged apparel exporters of *country A*.

As long as such tariff-induced cost advantage is sufficient to enable exporters in *country A* access market in *country B*, the resulting larger market size should provide the platform for *country A* apparel sector to increase its sales and scale of operations through export sales. While the preference lasts, it is assumed that the now attractive apparel sector of *country A* would be able to attract increased investment both into existing and new plants

and through the trade mechanism discussed in Chapter 2, make possible the **transfer of technology** associated with large scale operations. Such technology transfer, the reasoning further goes, will induce economies of scale necessary to bring down production costs in *A*'s apparel industry to that of the world level.

Thus achieving greater **efficiency** in production through trade facilitated **export growth** and **technology transfer** is the theoretical foundation for value enhancement function of NRTTP. By this, it is hoped that a sustainable performance in manufactured exports of *country A* that would out-live the preferential programme would have been assured. Many analysts have likened this to another form of infant industry protection (Brown, 1988; Ghatak, 2003).

The literature on social capability reviewed above has important implications for value enhancement prospects as conceived in the NRTTP mechanism. An argument can be made that the transfer of technology needed to support this process will be constrained if firms operate in an environment characterized by significant social capability deficits. This is because factors such as weak capital market intermediation, poor institutional and social infrastructure among others that are emphasised by Abramovitz in the discussion above necessarily impede on a firm's ability to behave efficiently. Therefore a testable hypothesis can be stated as follows: **Social capability deficits impacts negatively on efficiency (value enhancement) performance of NRTTP beneficiaries.**

To situate the analysis in the context of existing research on efficiency of industrial establishments the next section gives a concise review of the literature.

### **5.6.1 Concept of Production Efficiency**

The first part of this section introduces the concept of production efficiency in sub-section 5.6.1.1 followed by a review of the literature on efficiency performance of African manufacturing concerns in sub-section 5.6.6.2.

Production inefficiency can generally be defined as the departure of an individual firm from a benchmark, which is known as efficiency frontier. Such inefficiency may arise from either inappropriate application of technology (technical inefficiency) or sub-optimal allocation of resources (allocative inefficiency). Koopman (1951) defines an efficient producer as follows:

“A producer is efficient if, and only if, it is impossible to produce more of any output without producing less of some other output or using more of some input”

The above definition suggests that a firm cannot be said to be operating at its efficiency frontier, if it is possible to produce more output with given inputs. Or, stated differently, if it is possible to produce the same out with less input.

The input-output nexus emphasised in the definition suggests that any analysis of plant efficiency will have to be informed by the basic theory of production, which relates input to output. More formally stated, a production activity is defined as a process that uses resources (input) to create a commodity (output). The myriad of possible input requirements otherwise known as factors of production can be identified to include:

1. Raw materials
2. Labour services
3. Capital goods (Human and Physical)
4. Land

Production economists have argued that the maximum output of a technologically determined production process is a function of a set of input combination. Because there are different combinations of input that can be used to produce a given output, only the combination that requires the minimum input, given available technology, is assumed to be efficient and positions an organisation at its efficiency frontier. In the real world however, the ability to operate at this efficiency frontier has been argued by economists to be dependent on a number of other factors. These factors that have been considered within the specific context of African manufacturing organisations are presented in the brief survey of literature that follows.

### **5.6.2 Efficiency Performance of Industrial organisations in Africa**

The phenomenon of manufacturing efficiency in Africa with respect to why productivity performance often departs from its most efficient level has been visited with some noticeable interests. Over the years, a plethora of explanations ranging from size to export orientation, from human capital to corruption and other variables of institutional environment have all appeared in the writings of many prominent scholars of industrial organisations.

For instance, size has been found to be positively associated with productive performance of Kenyan firms (Lundvall and Battese, 2000) and Ivorian firms (Chapelle and Plane, 2005). Another analytical model postulates that export oriented strategy increases firm level efficiency (Krugman, 1987; Grossman and Helpman, 1991). This was tested and confirmed at plant level for the four African countries of Cameroon, Kenya, Ghana and Zimbabwe (Bigsten, et al., 2000).

In investigating the consequences of human capital on performance, Soderbom and Teal (2004) find that observable skills are not quantitatively important as determinants of productivities among manufacturing firms in Ghana. While all these competing explanations have offered interesting insights, studies that focus on corruption and related institutional factors represent a kind of analytical departure that is similar in spirit with the social-capability hypothesis.



Theoretical models of institutional failures and firm performance like the one proffered by Hall and Jones (1999) argue that the observable differences in cross-country levels of output per worker can be explained by differences in the quality of social infrastructure. With social infrastructure being defined as institutions and government policies that define the business climate in a region, McArthur and Teal (2002) test this hypothesis for a cross-sectional sample of 27 African economies.

In their empirical model, corruption is used to proxy for social infrastructure and their estimation finds significant evidence of negative correlation with performance in two ways. One, at the individual firm level, companies that pay bribes are found to be 20 per cent lower in levels of output per worker. Two, at the global level, firms operating in countries where corruption is endemic are reported to be 70 per cent less efficient than firms that operate in relatively corruption free economies.

In a similar investigation Chapelle and Plane (2005), use the concept of *dual industrial structure* to shed some lights on efficiency performance of Ivorian firms. The reasoning goes that the proven ability of small informal firms to co-exist with the large ones despite suggestions that the former are less likely to be as efficient as the latter must have been due to the existence of some forms of market or government failures.

Government and market failures that constrain firm access to finance, promote corruption, encourage union activities etc are hypothesised to be antithetic to productivity. Because large firms are more likely to be confronted with these failings due

to their formal status, it is suggested that they will be relatively worse-off in efficiency performance than their smaller and informal counterparts. Indicators of institutional failures are captured by variables of corruption, poor access to capital, inadequate infrastructure, presence of labour unions etc. On the basis of their findings, the authors confirm their hypothesis that the efficiency potentials conferred by scale advantage on large firms is constrained by their having to deal with these institutional failures on daily basis.

On the other hand, smaller and informal enterprises were not as disadvantaged because they were able to operate with greater flexibility in terms of adjusting inputs to the swings of local economic conditions. The dual nature of industrial structure is therefore a reflection of institutional environment that makes it difficult for large firms to operate at their scale determined efficiency frontier.

To the extent that social capability hypothesis emphasises these elements of social and institutional environment that the above studies acknowledge, the present research compares well in this direction. However, difference still exists in that the investigation in this dissertation is carried out within the context of trade preference impact assessment.

## **5.7. ECONOMICS OF VALUE RETENTION**

While efficient production may be necessary for assuring sustainable industrial performance at least in the medium term, long run sustainability requires the commitment of production entities to a long-term relationship with the host economy.

Unfortunately however, the current era of global system of production creates chances for opportunistic footloose enclave behaviour by firms. If producers sense better opportunities elsewhere, footloose production arrangements make relocation attempts so easy to be accomplished. The consequence for a trade preference beneficiary is that longer-term sustainability of value created and enhanced becomes problematic. Therefore, the argument follows that the story of sustainable industrial export development cannot be told with completeness without focusing on retention or capturing of value for the host economy.

One of the many ways by which value can be captured is through embeddedness or integration of production firms with the local economy. This is because such an outcome ties down these firms in the region in ways that raise the stake for relocation possibilities. For instance, a producer that has become so dependent on local suppliers will find it difficult to move to a new environment where such suppliers may be absent and developing them may take time. Much of the analysis of local embeddedness therefore recognises the importance of linkage formation with local suppliers as a necessary condition.

In the current framework of NRTTP linkage can be generated through the instrument of rules of origin. As a condition that enforces localization of all production activities in the beneficiaries' own economies, it has a strong potential to bring about the kind of local dependence that ties down manufacturing plants. This however, seems to conflict with condition for value creation that was suggested earlier in Chapter 4. Recall that stringent rules of origin requirement was recognised as a constraint on export stimulating abilities of NRTTP because it represents a potential distortion to the smooth flow of interdependence between actors in global production networking. A kind of tension thus appears to exist between relaxing rule of origin in order to make value creation possible and imposing the condition in order to assure retention of value.

However, NRTTP has another inherent embeddedness potential and this relates to the possibility of realizing enhanced efficiency performances through benefiting from policy induced trade integration. As this has already been extensively discussed previously we do not repeat the issue around this. Instead we focus on a conceptualisation of how such efficiency reward can bring about local embeddedness in beneficiary economies.

Consider a beneficiary country whose firms are linked to global production system through the product of value creation of NRTTP incentives. Overtime efficiency of local suppliers to the network improves through trade integration with the international economy. This in turn creates incentives for further investment which brings about expansion of the sector. From the theory of increasing returns we learn that a larger sector or industry is able to support production of a wider variety of intermediate inputs. As

cluster of firms develop in a place so do specialist suppliers grow and markets for intermediate goods become thicker (Collier and Venables, 2007). In other words, when there is only one or a few firms in an industry, there will be little or no incentive for suppliers to develop. But as number of firms grows so does profitability of investment in the supplies of input material for these firms. A gradual process of industrial deepening that creates strong linkages in the local economy thus begins to unveil itself.

But strong potentials exist for the above mechanism to break down if the environment within which firms operate is defined by significant deficiency in social capability assets. To put this differently, our argument implies that a successful accomplishment of the mechanism of value retention under NRTTP is possible only when the focal economy is sufficiently endowed with social capability assets. In their absence, the kind of efficiency improvements needed for industry to expand will be difficult to realize in the first place. In the same manner, profitability of investment in the upstream sector will be undermined by absence of efficient institutional and social infrastructures. This perhaps resonates very well with Joseph Stiglitz's argument that the quality social absorption capacity of an economy matters if such economy is to take advantage of development opportunities at its doorstep. We can put this argument nicely in a hypothetical statement that illustrates the pattern of relationship that exists between social capability deficits and value retention potentials of NRTTP as follows: **Value retention is negatively correlated with social capability deficits.**

The next section presents the literature on supplier linkage development (industrial embeddedness) as a useful framework for analysing the above argument.

### **5.7.1. Determinants of Industrial Embeddedness**

For the purpose of this analysis, regional embeddedness shall be defined as the creation of a continuous inter-firm relationship between network suppliers (especially TNC subsidiaries) and other firms in the region of its location. We view this relationship in the context of backward linkage practices of our focal firm. To the extent that the focal firm becomes dependent on supply of its inputs and related services on local suppliers, the 'tying to the region' requirement for long-term sustainability of industrial export performance is assumed to be satisfied.

Initial interests in local linkages are visited within the broad concept of regional development as a whole. For instance Hirschman (1958) emphasises the need to maximise the benefits of industrialisation through firm linkages sensitive policies. Coffey and Polese (1985) also advocate the expansion of local firms through linkages effect as a model of endogenous regional growth. However, studies that have evolved within the last decade or so on regional embeddedness have been primarily driven by the pressures of globalisation (Ohmae, 1995; Yeung, 1998), that some analysts like Turok (1993) fear are leading to an increasing level of enclave behaviour by multinational subsidiaries.

The literature that emerged from these efforts identifies some key factors as determinants of supplier linkages. Crone and Watts (2003) put these factors into three main categories. They are: demand-related factors; supply-related factors and organisation-related factors.

#### **5.7.1.1. Demand Related Factors**

Linkage potentials have been argued to be related to specific demand attributes of firms as may be defined by such factors as industrial affiliation, technological sophistication, size, age, market condition etc.

Linkages are usually low in process industries, but high in industries where production activities are divisible into multiple stages requiring varieties of materials, components and parts. A related hypothesis along this line of industrial affiliation is the view that industries requiring specialised (unstandardised) inputs have reasons to source their inputs from local suppliers because of the degree of close monitoring required. On the other hand standardised inputs can easily be procured from far distance, as suppliers already know in advance what is required in terms of product specifications and other details. Firms in such industries (with standardised input requirements) will tend to have few linkages with their region. In similar manner the argument has also been put forward that, at least, in the context of developing countries, affiliates producing specialised products with high technological contents will have few items that can be outsourced.

The size of the buying plant is another demand related factor that has been considered in the literature. Because of the potential large orders required by big firms and the possibility that local suppliers are not likely to possess the capacity to meet such high demand, it is reasoned that large-scale manufacturers will be more inclined towards out-of-region sourcing.

Furthermore, the hypothesis that the level of regional sourcing is positively related to the age of the buying plant is supported by two principal arguments. One, the learning curve hypothesis advanced by O'Farrell and O'Loughlin (1981) postulates that the kind of confidence building and trust in the capacity of local suppliers required for TNC subsidiaries to engage in local sourcing habits often take time. Therefore the longer the firm stays in the region the higher the chances of local embeddedness. Two, differences in the degree of local sourcing between older and newer plants may also reflect the possibility of inertia. Older firms may be reluctant to change from old established sourcing pattern while younger ones may be more disposed to market trends in global sourcing (Phelps, 1997).

The market condition facing a TNC subsidiary can also play important role in the firm's decision to source input locally. Firms that are in a highly competitive market where price sensitivity is an attribute are generally perceived to be more footloose and less likely to engage in embedded relationship in the local region (Laurisden, 2004).



Empirical evidence on the validity or otherwise of many of these demand factors are available. There is some evidence that industries with specialised input needs tend to source locally while those with standardised input requirements do engage in enclave behaviour. Support for the claim that industries with specialised input requirements source locally is contained in Hagey and Malecki (1986) and Smith and Barkley (1991). These studies, with focus on the US, find that high tech manufacturers generally have strong linkages with local suppliers. Glasmeier and McCluskey (1987)'s investigation of the sourcing behaviour of autopart manufacturers in the US also confirms the hypothesis that industries with standardised input needs often develop few ties with the locals.

However, empirical support for the size-linkage relationship has been mixed. While some studies (including Barkley and McNamara, 1994; Gorg and Ruane, 2001) report that larger plants depend less on the host region for input needs, others could not find evidence in support of the proposition (O'Farrell and O'Loughlin, 1981; Reid, 1995). Most studies that relate regional sourcing to firm's age have confirmed the proposition that the older the plant the higher the level of regional sourcing (O'Huallachain, 1984; Gorg and Ruane, 2001).

### **5.7.1.2 Supply Related Factors**

In Watts and Crone's (2003) conceptualisation, supply-side factor is discussed within the context of regional capacity or ability of host region to supply required inputs for MNCs

operations. Indeed this argument is central to the thesis of Global Production Network which emphasises the importance of regional asset not only in facilitating the location of value adding activities, but also their upgrading (Coe et al., 2004). In this regard, a number of factors have been identified as potential role players. Some of these include the size of the region, industrial identity, and institutional incentives.

The proposition that regional size matters for supply capacity is premised on the logic that larger regions (defined in terms of number and size of plants) will be better able to supply both the varieties and quantities of input demanded by TNC subsidiaries than their smaller counterparts. It therefore follows that the degree of local embeddedness should be positively correlated with size variable. Twomey and Tomkins (1996) confirm this hypothesis for the UK while a related study for the US economy by Reid (1995) finds evidence to the contrary.

Identity of the dominant industrial structure of a region determines supply capacity and hence regional linkage potentials in a number ways. Most importantly, the type of industrial activities that is incumbent in the region influences availability of local input suppliers. It is hardly likely to find sufficient auto-part suppliers in a region dominated by garment production activities. In similar vein, suppliers of input to garment factories are more likely to be sufficiently established in regions with sizeable presence of garment firms.

Early study by Barkley and McNamara mentioned earlier shows that firms in a sector with more established regional presence have more local suppliers and display stronger local ties than those in sectors with limited regional presence. Kirchner also notes this point in his investigation of the linkage activities of the German-owned manufacturing companies operating in North-East of England. His findings reveal that some companies that engaged in outside sourcing did so because of the unavailability of local suppliers of such input. Some of these companies manufacture highly specialised materials whose inputs are only available from a small number of suppliers worldwide (Kirchner, 2000).

The role of institution in linkage formation incentives for producers is important for local embeddedness of firms. The Global Production Network theory emphasises the ability of regional institutions to facilitate upgrading activities of TNCs in their regions through the matching of regional assets with strategic needs of these firms. It is argued that even if input suppliers are not locally available, the TNCs can encourage their suppliers elsewhere to follow them to a new region as long as their strategic needs can be met there. On the basis of research carried out in eastern Bavaria (Germany) Coe et al. (2004) show how the articulation of a host of incentives by regional actors that matched the interest of BMW auto manufacturer influenced the multinational company to persuade its first-tier global suppliers like Lear Corp and Modine (both US firms) to establish plants in Germany.

Relevant incentives in this regard can include relative labour productivity that is either enhanced by the availability of highly trained competitive work force and/or physical

capital at below the market factor price. If regional authorities can enhance the quality of their human and physical capital through the provision of good education and economic infrastructure, linkage activities of TNCs can be encouraged.

Another kind of incentive is financial that can be institutionally mediated through the provision of low-cost industrial premise, tax incentives, or strategic exchange rate management. Finally, a co-operative labour union can also be crucial in defining the boundary between an attractive and a non-attractive region for multinational corporations' decision to engage in long-term commitment. Some of these have been identified as the pull factors in Kirchner's study that the author finds to be positively related to the degree of regional embeddedness of foreign firms.

### **5.7.1.3 Organisation Related Factors**

Besides demand and supply factors that have been the focus of discussions so far, embeddedness activities are also influenced by organisational variables. The fact is that to the extent that organisations differ in terms of their ownership, strategies, nationality, and other corporate variables, their sourcing behaviours are also likely to be influenced by these differences.

The most widely acknowledged corporate variable in studies of multinational behaviour is the impact of ownership factor. Multinationals are distinguished along the line of

foreign and indigenous ownership with the hypothesis that foreign-owned firms are less likely to be locally committed than their indigenous counterparts. One intuitive justification for this line of reasoning is the likelihood that indigenous firms may be more familiar with local suppliers than their foreign counterparts. A number of studies carried out in Europe and North America find support for this hypothesis (Britton, 1976; Stewart, 1976; Barkley and McNamara, 1994).

As far as organisation strategies are concerned, level of subsidiary autonomy as well as sourcing strategies of the TNCs have preoccupied analysts' attention. Zanfei (2000) argues that subsidiaries with a higher level of autonomy will develop stronger local linkages than those with less. Another argument put forward is the fact that firms that are inward-driven tend to internalise their sourcing needs and less likely to be strong in local ties (Marshall 1979). All these arguments are still at the level of hypothesis as few evidence exist for their validation or otherwise.

Though there is hardly any sophisticated theoretical justification for their relevance, some studies have found the nationality of corporate bodies to be predictor of linkage potentials. Japanese firms especially have been the targets of such analysis. Some authors have argued that these firms are more likely to be inwardly oriented and develop fewer linkages with the host region (Morris, 1989; Garrahan and Stewart, 1992).

In recent studies, the focus has moved to Europe with contributions like Chesnais' et al's paper suggesting that non-European firms operating in Europe are more likely to develop pan-European network than their European counterparts (Chesnais et al, 2000). Potter et

al (2003) find support for this hypothesis when they reveal that North American investors have the tendency to generate a high level of spillover activities in Europe.

## **5.8. SUMMARY**

This chapter addresses the dynamic or sustainability issues of the impact assessment model. It is pointed out that value-enhancement and its retention are necessary if gains from value creation by NRTTP will become sustainable.

However, the prospects that exist for value created to be enhanced and retained are argued to be dependent on the adequacy of the social-capability of an economy. Economies with inadequate social-capability are hypothesised as less likely to be successful in adopting efficient technologies that NRTTP framework envisages will make its gains sustainable at least in the medium term (value-enhancement).

Furthermore such economies are also more likely to do a poor job in tying network producers to their regions. Because the local embeddedness that this implies is required for longer-term commitment of firms to the region (value-retention), the hypothesis also goes that long run sustainability of industrial performance will be constrained by weak social-capability.

To investigate the impact of social-capability on value-enhancement, the literature on production efficiency is presented in the chapter. Research done in this area highlights the relevance of input combinations together with a number of other variables like size; export orientation and social infrastructures to the prospects for efficiency upgrading.

Value-retention prospect as defined by the degree of linkages of network firms with local suppliers is also influenced by a number of factors. Briefly, these are:

1. Demand related factors: Variables of relevance here are industrial affiliation, technical sophistication, size and age.
2. Supply related: Among supply related variables are size and industrial identity of the region as well as the quality of its institution.
3. Organisational related factors. Ownership, strategy and nationality of firms are variables that have explanatory power in the degree of linkages with local economy.

These identified factors will inform the specification of both value- enhancement and retention models that will be used to test the contention in the chapter that social capability deficits inhibit the sustainability of NRTPP induced export performance in the empirical analysis that is the focus of the next chapter.

## CHAPTER 6

### **African Growth and Opportunity Act (AGOA) & VALUE CREATION, VALUE ENHANCEMENT AND RETENTION AMONG LESOTHO APPAREL FIRMS**

#### **6.1 INTRODUCTION**

So far, the theoretical issues involved in the economic analysis of value-creation, value-enhancement and retention that effective preferential market access programmes should help accomplish have been discussed. In this chapter, these considerations are put together to specify a trade preference impact analysis model. The model, which has both static (value-creation) and dynamic (value-enhancement and retention) dimensions, has been empirically tested among a representative sample of Lesotho apparel manufacturing firm beneficiaries of the US African Growth and Opportunity Act (AGOA) trade initiative.

To put the objective of the chapter more succinctly, answers to each of the issues raised under the statement of objectives in chapter one are presented here<sup>18</sup>. Section 6.2 sets the stage for the analysis by presenting a brief introduction to the general issues that are germane to the proposed exercise. Then in Section 6.3 a theoretical model or framework with testable hypothesis for analysing the relationship between trade preferences and industrial export development is presented and discussed. The focus in Section 6.4

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<sup>18</sup> These answers are with respect to the first three objectives stated i.e., (one), development of an analytical framework, (two), investigation of the static and (three), dynamic impact of AGOA on Lesotho apparel exports. The fourth and last objective that bothers on policy recommendation is addressed in chapter seven.



touches on an empirical test of the value-creation or static impact of AGOA scheme. Sections 6.5 and 6.6 follow-up on this by investigating the dynamic impact (value-enhancement and retention) of the trade incentive on Lesotho apparel export development. These investigations are carried out under the hypothesis that social-capability matters for the sustainability of trade preference induced export performance. Finally, in Section 6.7 the chapter's concluding remarks are given.

## **6.2 GENERAL CONSIDERATIONS**

The discussions in this section are arranged as follows. Sub-section 6.2.1 motivates the choice of the empirical case study. This is followed by an overview of AGOA and its apparel provisions in sub-section 6.2.2. Lesotho's experience under the scheme is considered next in sub-section 6.2.3, while sub-section 6.2.4 explains how the data used are collected.

### **6.2.1 Justification for the Choice of Case Study**

The US African Growth and Opportunity Act and its apparel provisions has been chosen as a trade preference scheme of interest simply because it offers one of the most attractive and most developmentally significant trade concessions for its beneficiaries (Gibbon, 2003). A recent contribution to the trade policy debate (already mentioned in Chapter 4) had argued that when assessing the impact of preferential trade programmes, it is

important that researchers direct their attentions to the most valuable ones (Page and Kleen 2004). That is not just the whole story our arguments in Chapter 4 also imply this.

The importance of the choice of apparel industry to this analysis is further reinforced by the fact that the sector plays a strategic role as a gateway to increased exports and industrialisation for developing countries. Gereffi, in a fairly recent paper describes this sub-sector of the economy as a typical 'starter' industry for countries engaged in export-oriented industrialisation (Gereffi, 1999). As claimed by the economic sociologist, its exports played a leading role in East Asia's early export growth. Europe and North America have also emerged as modern day industrial giants basically on the platform of this industry. More recent beneficiary of the growth and development potentials of the sub-sector is China, whose emergence in the 1990s as an industrial power had much to do with textile and apparel exports.

Furthermore, the strategic relevance of the industry is also visible on the socio-economic front of poverty reduction potentials. By virtue of its labour-intensive production technology, it has a large employment generation effect especially for women who constitute the bulk of the poor in developing countries.

Preference for Lesotho's experience under AGOA is informed by a number of reasons. One, the country until the shock in 2004 was Africa's leading supplier of apparel to the US and arguably AGOA's most important beneficiary. It recorded the highest value of exports under the scheme during the first few years of the programme's inception. As

Table 2 below shows, her total value of exports which exceeded \$1,559 million between 2002 and 2005 is unrivaled by any of the leading sub-Saharan African exporters that qualified for the programme's benefits since 2001. Also, according to a 2002 Government of Lesotho sponsored Garment Industry Survey Report, more than 93% of the country's total garment production is exported to the US.

Two, textile and apparel production is a vital sector to Lesotho's fragile economy. It has been claimed that the industry contributes about 19% of the country's GDP and is currently the largest employer of labour in the economy (Bennet, 2006).

Three, a country specific examination that Lesotho's case study represents has also been preferred to accommodate part of the concerns discussed in Chapter 4 that existing evidences rely heavily on cross-country regressions. This according to UNCTAD (2003) represents a significant shortcoming, as any meaningful assessment of the impact of NRTTP will focus on specific experiences of countries.

Four and perhaps more fundamentally, under the AGOA provision Lesotho qualifies as a LDC beneficiary. What this imply is that she is exempted from the rules of origin provisions of the Act and can source her input freely and from anywhere in the world. In the context of analysis undertaken in Chapter 4, this meets the condition for industrial targeting requirement for NRTTP effectiveness.

### **6.2.2 AGOA: An Overview**

The African Growth and Opportunity Act, was signed into law on May 18, 2000 under the US Trade and Development Act of 2000. It aims to assist sub-Saharan African (SSA) development efforts by providing incentives to enable countries, to improve their economic performance through trade<sup>19</sup>. Section 102 (1) of the Act enunciates its major policy thrust to include the promotion of stable and sustainable economic growth and development in SSA through (amongst others) preferential treatment of apparel exports of beneficiaries to the US market.

Prior to AGOA apparel exports from SSA were regulated by the Multi-Fibre Agreement (MFA) quotas and were not among the list of products covered under the US GSP scheme. Since the Act is basically an improvement on this scheme (i.e. US GSP), some analysts have reckoned that its real benefits lie in the extension of product coverage to apparel and petroleum (Mattoo, Roy, and Subramanian. 2002) and that its most developmentally significant concessions are in apparel (Gibbon, 2003).

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<sup>19</sup> See: [www.agoa.gov](http://www.agoa.gov)

**Table 2:****Value of SSA apparel exports to the US market by major exporters (2002-2005)**

Country/Year	2002	2003	2004	2005	AGOA Utilization Rate (Average)
Lesotho	320.690	392.670	455.753	390.712	98%
South Africa	200.019	232.318	141.466	67.177	60%
Madagascar	89.380	196.022	323.107	277.065	95%
Mauritius	254.672	269.024	227.283	166.579	58%
Kenya	125.905	187.681	277.164	270.557	97%
Ethiopia	1.324	1.764	3.335	3.604	98%
Swaziland	89.095	140.671	178.688	160.877	94%
Malawi	11.431	23.173	26.775	22.781	97%
Uganda	0.001	1.628	4.009	4.840	98%
Namibia	6.697	41.952	78.654	53.200	91%
Zambia	0.000	0.008	0.028	0.001	76%

Source: Tralac

Values are expressed in US Dollar

The first version of AGOA that was signed into law in 2000 (AGOA I), extended duty free and quota free access to US market for apparel made in eligible sub-Saharan African countries from US fabric, yarn and thread from 2000 to 2008. For apparel made with fabrics from qualifying countries (regional fabrics), a cap of 1.5%, which was expected to increase to 3.5% of total, US apparel imports over an eight year period was imposed.

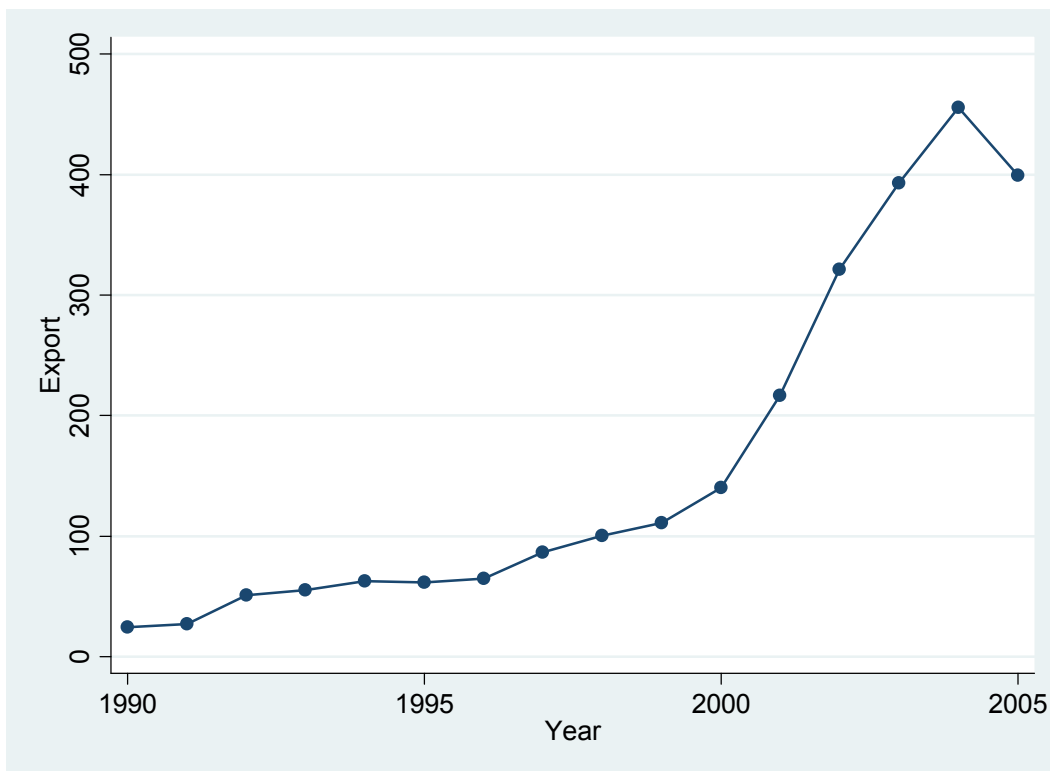
Under the ‘third country’ fabric provision, a special concession was granted to Least Developing Countries whereby apparels made from fabrics originating from anywhere in the world were allowed until 2004. However, eligibility for these trade concessions was conditioned on beneficiaries meeting a number of political and economic prerequisites in addition to an administrative requirement of having an effective visa system that is approved by the US Customs Department in place.

Subsequent amendments to the Act as contained in the AGOA II of 2002 and the AGOA Acceleration Act of 2004 (AGOA III) had all sought in one way or the other to improve on the scheme’s deliveries. For instance, instead of the initial 3.5% expected growth in apparel cap for garments made with regional fabrics, AGOA II increased the applicable percentage to 7 over the same eight-year period. In addition to extending the life span of the programme from 2008 to 2015, AGOA III also extended the expiration of ‘third country’ fabric provision by three years (from 2004 to 2007)

### **6.2.3 Lesotho’s Experience**

Lesotho was granted full AGOA apparel beneficiary status as a Least Developing Country enjoying third country provision on 23/04/2001. Observers have claimed that the price advantage that AGOA offers Lesotho is approximately 17%, which is the average duty that MFN countries pay on their apparel exports to the US (Salm, et al, 2002; UNCTAD, 2005).

Since her qualification, apparel exports to the US market have grown substantially (see Figure 3 below). From a modest figure of \$110.7 million in 1999 export value rose to \$455.8 million in 2004 representing about 95% of the country's total apparel exports for that year. The downturn experienced in 2005 is as claimed by some authors largely due to the expiration of the Multi-Fibre Agreement in December, 2004 which lifted the restrictions previously placed on exports of more competitive producers like India and China (Collier and Venables, 2007).



**Figure 3: Apparel Exports to US from Lesotho 1990 – 2005 (US\$ million)**

Sources: Gibbon (2003), Tralac, (2005).

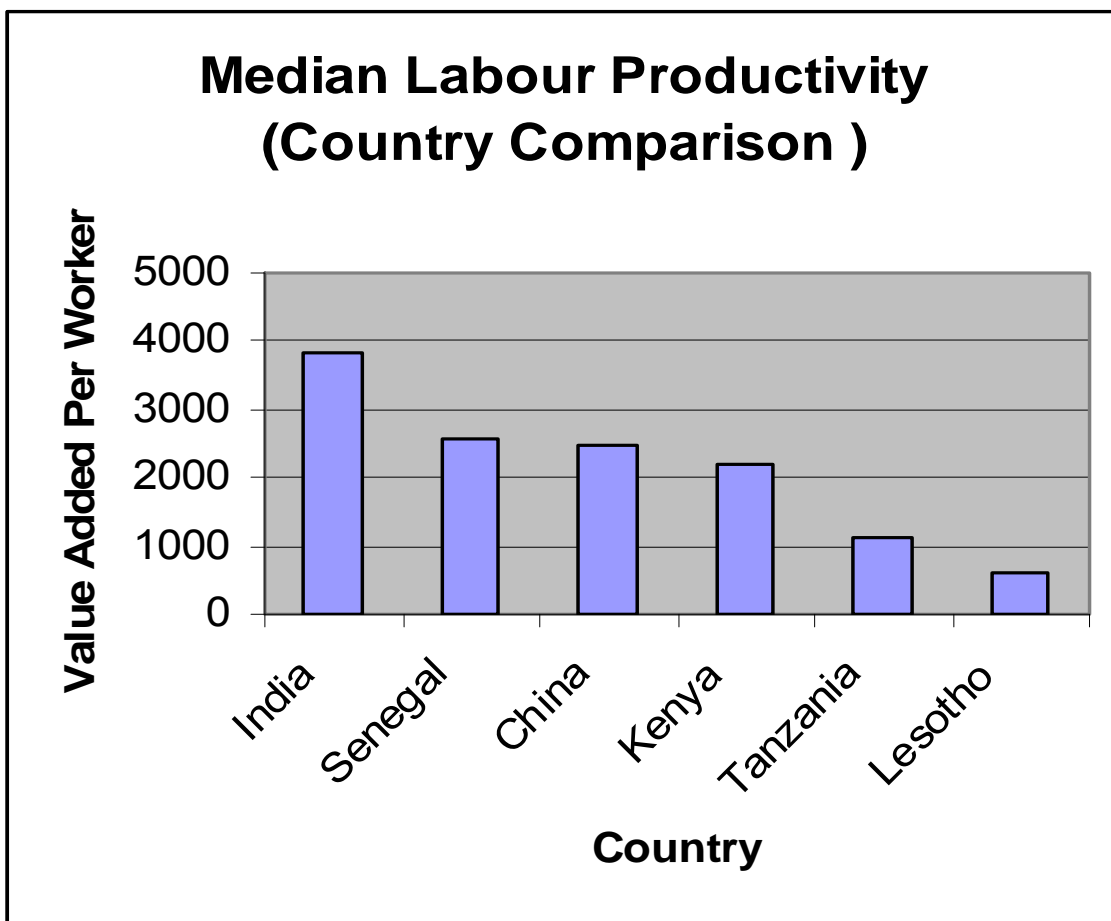
As expected, the impact of AGOA induced boom in export performance facilitated the expansion of the industry as more investments went into existing and new plants. According to a United States International Trade Administration Report, it was claimed that AGOA helped facilitate the creation of eleven new factories and expansion of eight existing ones in Lesotho within the first two years of its operation (USITR, 2002). In a related UNCTAD survey, it was reported that more than half of the country's major foreign-owned apparel companies in existence as at 2002 were opened subsequent to AGOA Trade Act (UNCTAD, 2005). It is therefore no surprise to notice that sectoral output increased by more than 380% between 1998 and 2004 (from a value of about \$101 million in 1999 to \$481.8 million in 2004).

Despite its increased scale however, the sector is yet to achieve the kind of efficiency performance level that theory suggests will make it internationally competitive in the absence of protection. A simple comparison of median labour productivity between firms in Lesotho and selected counterparts in Africa and Asia reveals that Lesotho records the lowest efficiency performance among all comparator countries (see figure 4).

While some have argued that more time is needed for AGOA to actualise its full impact on economic performance (Rolfe and Woodward, 2005), it is worth noting that the revealed pattern of efficiency performance does not give any encouraging signal that supports this longer-term effectiveness hypothesis. Rather than moving closer to efficiency frontier, productivity performance in the garment sector between 2000 and 2003 displayed a divergence trend. As figure 5 shows, the initial increase in efficiency

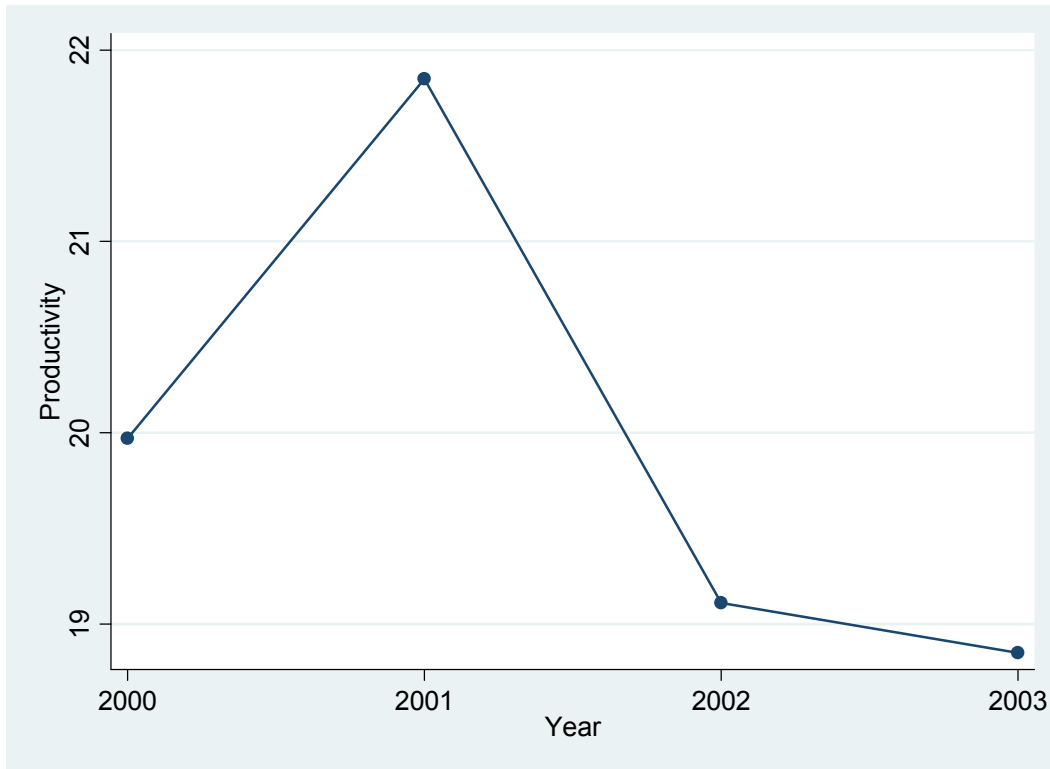


performance between 2000 and 2001 could not be sustained through to 2003. The declining average labour productivity trend from 2001 onward only goes to suggest that time may not necessarily be what is needed for efficiency level to converge with those of the productivity leaders. To explain this divergence, it is therefore tempting to suspect that the social-capability hypothesis of Moses Abramovitz and co. may be relevant here.



**Figure 4: Country Comparison of Median Labour Productivity in Apparel**

Sources: World Bank and Author's calculation (Values are in US\$ and for 2002 for all countries except Lesotho which is for 2003 and India, 2001)



**Figure 5: Trends in Efficiency Performance in Lesotho Apparel Sector (2000-2003)**

Source: Unpublished Data, Lesotho Bureau of Statistics

The foregoing descriptive evidences are suggestive enough to warrant thorough empirical inquiries where model can be developed and hypothesis tested. Consequently the rest of the chapter is devoted to doing just that. But before then, it is necessary to explain how data used for the empirical analysis is collected.

#### **6.2.4 Data Collection**

The Lesotho Bureau of Statistics (LBOS) database reported that there were 38 apparel-manufacturing firms operating in Lesotho as at December 2004. Data on key variables of interests like sales, output, employment, wages, etc, that were available from this source contained a number of missing information on some of these variables. From the database, it was also not possible to gather other necessary information required for the research purpose. It was therefore considered necessary to conduct a fieldwork survey in order to obtain such data.

Following a modified version of the World Bank approach, all of the thirty-eight establishments were surveyed through the means of administered questionnaire that was carried out in 2006 (see appendix A). Raw data from this exercise provides a variety of information on various aspects of business organisation profiles and their activities in Lesotho that include:

1. Identity of establishments
2. Sales and supplies
3. Production expenses
4. Investment climate constraints
5. Technology and labour
6. Assets and liabilities

In the first stage of the survey, only 17 of the 38 firms that were contacted responded and returned the questionnaire. Those that did not were further contacted through repeated phone calls and two different trips to their offices between early August and late September 2006. It was discovered during these trips that non-respondents were either not enthusiastic or generally suspicious of the motives. But due to generous assistances provided by two anonymous Research Assistants that were based in Lesotho, it was possible to obtain responses from 19 more firms<sup>20</sup>. This success rate is quite impressive by research standard, but can also be explained by the relatively small number of the study population and the fact that all firms were easily accessible<sup>21</sup>. The sample in the study can therefore be said to be quite representative.

However, during the editing, it was discovered that key data were still missing for some variables for some companies. In most cases, this lack of complete information was either due to incomplete or incomprehensible answers provided in the filled questionnaires as well as missing data from the LBOS records. Three firms with significant missing information were therefore dropped from the final sample. The final dataset that was used for the econometric analysis in Sections 6.3, 6.4 and 6.5 is a cross-section data of thirty-three apparel firms<sup>22</sup>.

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<sup>20</sup> During the course of the fieldwork, we discovered that one of the 38 apparel firms closed down its Lesotho operations.

<sup>21</sup> Most apparel firms in Lesotho are located in two major cluster districts which are just about forty kilometer apart from each other.

<sup>22</sup> It is important to quickly recognise the main drawback of relying on cross-section data for empirical investigations. Generally, because of the short and time invariant nature of their statistical value, they do not permit very robust casual inference to be made in comparison with their panel data counterpart. But because the main goal of this research is to demonstrate the plausibility of a theoretical model, the

This dataset represents roughly 86% of the study population. Together all the 33 firms accounted for about 92.4% and 86.6% of output and employment in the industry respectively for the year 2004. Further information on the data and variables are given in each of the following Sections 6.4, 6.5 and 6.6 where the empirical analysis are undertaken.

### **6.3 A TRADE PREFERENCE IMPACT ANALYSIS MODEL**

The model and hypothesis that are developed here are based on the theoretical considerations that have been discussed in previous chapters.

In chapter two for instance, the argument was made that benefits of preferential trade programme like AGOA are meaningful only when export performances attributable to their incentives are sustainable in the long run. Chapter three further employs the theories of Global Production Network to identify the set of conditions necessary to assure sustainable export performance in an increasingly interconnected global economy. These conditions require a trio process of value-creation, value-enhancement and retention.

Value-creation is needed to stimulate exports and articulation of a region into a GPN, but sustaining this in both medium and long-term requires that value created must be enhanced (through increased efficiency performance) and retained (through local linkages) of production firms.

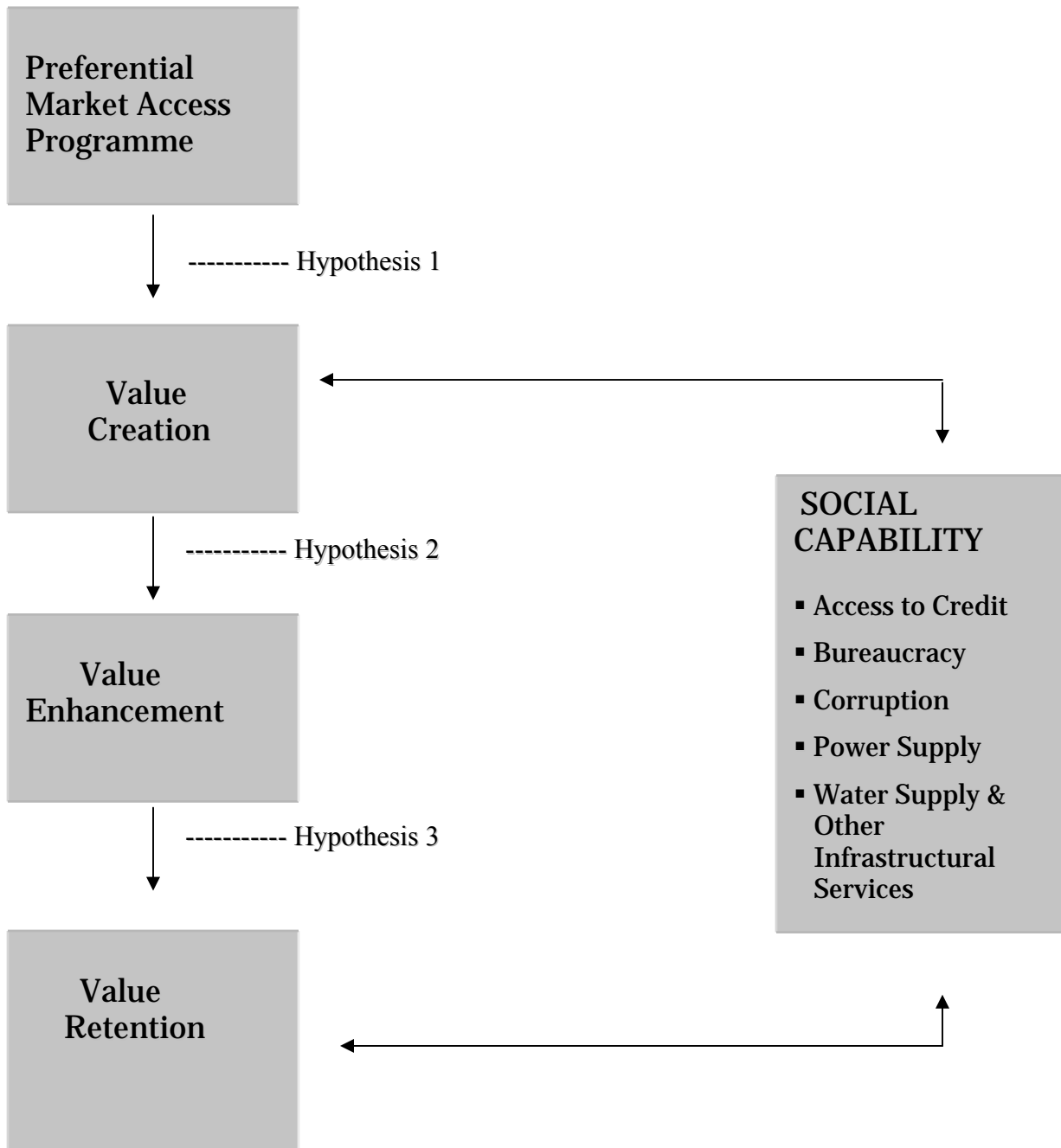
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combination of a qualitative analysis with conservative empirical tests satisfies the reasonable requirements for social science research (Uzzi, 1996).

Hence, based on this general theoretical consideration, a model of trade preference effectiveness as a strategy for industrial export development can be specified. Figure 4 below presents one such model with testable hypothesis based on the arguments on conditions governing the creation of value, its enhancement and retention in chapters four and five. As can be seen, this model shows the hypothetical linkages between these essential elements of trade preference effectiveness.

More specifically, the reference model highlights two main issues that are central to the analysis of the impact of trade preference programme:

1. That the value of incentives that are offered by programmes plays a crucial role in the initial creation of value for beneficiaries. This is the static dimension of impact assessment: and
2. That the social and institutional context within which firms are embedded as defined by a country's social capability may be more important to the sustainability of export performances in the long-run which requires that value must be enhanced and retained (dynamic dimensions).



**Figure 4: A Global Production Network Model for Analysing the Relationship between Trade Preferences and Industrial Export Development**

To the extent that the value of trade incentives is what is needed to stimulate exports, it should follow that preferential trade programme like AGOA should have a positive

impact on beneficiary's export performance. Therefore, the first testable hypothesis can be stated as follows:

**Hypothesis 1: AGOA trade preference incentives have impacted positively on the exports of apparel firms in Lesotho to the US market**

Furthermore, as argued in the previous chapter (chapter five), value-enhancement is a function of increases in the efficiency level of production organisation. In the context of trade preference analysis, enhanced manufacturing efficiency is an outcome of the extent to which technologies on the frontier are successfully transferred to beneficiaries of trade preference incentives.

While it is tempting to assume that increased export performance (value-creation) that facilitates higher-scale operations will automatically make the transfer of such productivity enhancing technology possible, the literature on economic growth and convergence cautions us that such possibility is not without some qualifications. Specifically, it is argued that successful technology transfer is governed by the social-capability of the economy within which firms operate. Being a poor under-developed backward economy (LDC), it is safe to assume here that apparel firms in Lesotho are embedded in an environment with lagging social-capability, with potentials to constrain successful transfer of efficient technology. The second hypothesis that will be examined is inspired by this consideration and states that:



**Hypothesis 2: The social-capability deficit of Lesotho's economy has impacted negatively on the efficiency performance of apparel manufacturing firms and hence the prospects for sustaining gains from preferential trade treatment in the medium term.**

Finally, the ability of a trade-preference beneficiary to retain value created and enhanced in its economy is determined by the degree of embeddedness that investors are willing to assume in the locality. Embeddedness ties investors to the economy and eliminates the dangers inherent in footloose operations. This has a further prospect of guaranteeing longer-term sustainability of gains under special market access privileges. An investor's willingness to commit to a longer-term relationship in any economy through deeper integration is also guided by the adequacy of social-capability in the economy. Therefore, in similar spirit with the second hypothesis above, the value retention hypothesis that will be tested is defined as:

**Hypothesis 3: Inadequate national social-capability in Lesotho impacts negatively on the degree of supplier linkage formation and hence the country's ability to ensure longer-term sustainability of gains from preferential trade treatments.**

Empirical investigations of these hypotheses are the subjects of the remaining sections of the chapter.

## **6.4 THE STATIC IMPACT OF AGOA ON VALUE CREATION**

This Section provides an empirical estimate of the value-creation impact of US Trade Preference (AGOA) on industrial apparel exports of Lesotho firms.

Following the arguments in chapter four, an export performance model is specified for Lesotho apparel producers. The extent to which AGOA trade preference incentives have succeeded in creating value for beneficiaries (in this context, Lesotho apparel firms) is then determined by relating the estimated value of AGOA variables to variations in export performance. An analysis of the data and variables used in this empirical test (undertaken in sub-section 6.4.1) naturally precedes the model specification in sub-section 6.4.2. Estimation results and discussions are presented in sub-section 6.4.3.

### **6.4.1 Data Analysis**

Data for this analysis are based on responses to the administered questionnaire and the database of LBOS already mentioned in sub-section 6.2.4 above. Among the 33 firms that are considered for this estimation, 19 were classified as exporters to the US market in 2004. This represents approximately 57.6% of firms in the industry sample. The remaining 14 firms or about 42.4% of the sampled establishments were classified on the basis of explanation given below as non-exporters.

The distribution of survey firms by variables used in the export performance model is given in Table 3 below, while a detailed description of their measurements and justification for their choices follow.

**Table 3 Distribution of Survey Firms by Export Performance Profile (%)**

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<i>Export Performance (exp)</i>	
(1) Exporters	57.6%
(0) Non-Exporters	42.4%
<i>Manager(s)' Education Level (edumgt)</i>	
(1) University degree and above	65.6%
(0) Below university education	34.4%
<i>Scale of Operation (scale)</i>	
(1) Output value $\geq$ 150m Maluti	36.4%
(0) Output value $<$ 150m Maluti	63.6%
<i>Export Commitment and Motivation (fsmo)</i>	
Ratio of marketing and overhead Expenses in production	0.18*

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\*Mean value

Source: Author's calculation

**Dependent Variable (Export Performance):** The operationalisation of the dependent variable (i.e. export performance) in terms of discriminating between exporters and non-exporters requires that we think through what approach to adopt. The binary dependent variable by which the sample is divided is defined on the basis of the proportion of export to US market in total sales. In Lesotho a complex regime governs the process by which firms get their output exported to the US market. For the most part garment firms

operating in the country act as Cut Make and Trim (CTM) for their parent companies located elsewhere so that there is very little direct dealing between independent buying agents for the US firms and the local garment producers<sup>23</sup>. A firm is thus categorised as exporter and assigned the value of 1 if the ratio of sales to parent companies or independent buying agents in Lesotho is equal to or greater than 50%. Otherwise the firm is classified as non-exporter and given the value of 0. Roughly 58% of the respondents emerged as exporters while the remaining 42% were non-exporters in 2004.

This method of using export sales to represent export performance is not without precedent. It has been used in a number of previous works (Bhavani, et al., 2001; Seyoum, B., 2006; Rose and Shoham, 2002). Exporters are discretely assigned the value of 1 while non-exporters are given 0 values.

**US Trade Preference (AGOA):** This is the independent variable of interest. It is defined as the value of tariff concessions that would have been imposed in the absence of a preferential treatment. In other words, it represents the value of average duty on garments entering the US market from Most Favoured Nation (MFN) countries in 2004. This value, which effectively amounts to the price advantage that Lesotho exporters enjoy over their competitors, is estimated to be approximately 17% of the total value of exports (Salm, et al., 2002; UNCTAD, 2005). In his recent work on the impact of US trade

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<sup>23</sup> The parent companies of the plants in question are themselves buying agents for the US brand marketers or retailers and are mostly based in Asia. The process resembles the triangular production network described by Gereffi where Asian middlemen obtain orders from US firms and sub-contract the production to their plants located in low-cost trade preference beneficiary countries like Lesotho. Outputs from these low-cost producers are subsequently delivered through the Asian middlemen to their US customers that ordered them in the first place.

preferences on export performance of developing countries, Seyoum (2006) applies the same logic to measure the value of US tariff concessions.

Since the dependent variable is qualitative, the value of AGOA incentive is calculated for each exporter by multiplying the tariff forgone (in this case 17%) by the total value of exports. For non-exporters, AGOA incentive is given by the difference between the price they would have received for their goods if they had exported directly to the US and the price they actually received from middle men who bought their output in their country. Transportation and other marketing expenses are then deducted from the resulting figure to get the net value of incentive. The higher this value is the higher the incentive and the better the attraction to export directly.

Calculating the actual value of a preferential trade scheme as mentioned in chapter four allows us to overcome one of the major criticisms of existing studies in this area, which rely on treating preferential treatment as dummy variable.

**Control Variables:** The set of control variables used are based on the identified explanatory factors of export performance in Chapter 4 of this thesis. Following Bhavani and Tendulkar, (2001), three of these elements: human capital endowment; export commitment and motivation; and size are introduced as controls.

Human capital endowment is proxied by the level of top manager(s) education. It is introduced as a categorical variable that has the value of 1 if top managers had university

education and 0 if their level of education is below university level. Again about two-third of the respondents in the sample has university education while one-third has less than.

Export commitment and motivation with a mean value of 0.18 is measured as the ratio of marketing and overhead expenses to total value of production. The size variable however has a discrete character. A firm is categorised as large scale if its value of output for 2004 was equal to or greater than 50 million Maluti and assigned the value of 1. Others with output value less than this are categorised as small-scale and are assigned 0 values. About 64 percent emerged as small-scale producers and roughly 36 percent operated as large-scale producers in 2004.

#### **6.4.2 Model Specification**

Given the binary nature of the dependent variable, a number of statistical techniques such as multiple discriminant analysis, probit and logit models naturally present themselves as possible choice candidates (De Toni and Nassimbeni, 2001)<sup>24</sup>. However, as Hair et al (1995) argue, the use of multiple discriminant analysis demands more restrictive statistical hypothesis than any of its counterparts. In the case of binary dependent variable not much difference exist between probit and logit regression (Gujarati, 1995). For

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<sup>24</sup> In the case of categorical dependent variable, ordinary least square multiple regression technique cannot be used. If used, it a disadvantage of potentially giving rise to heteroskedastic errors (Goldberger, 1964; Snell and Cox, 1989).

mathematical convenience, the research has therefore opted for the logistic regression approach in this estimation.

The objective is to model the relationship between the binary response variables and selected explanatory variables. The univariate logistic regression uses a binomial distribution to determine the percentage of variance in the dependent variable that is explained by the independents. A feature of this estimation technique is that, it estimates the probability of a certain event occurring. This is done by applying maximum likelihood estimation after transforming the dependent into a logit variable.

It is assumed that variables of export performance determinants identified in Chapter 4 such as human capital endowment, export commitment and motivation, size and trade policies are likely to influence the probability of a firm's export sales. The objective however is to investigate the extent to which a policy variable like AGOA impacts on Lesotho's apparel exports to the US market.

If we denote the probability of exports by  $\pi$  and the explanatory variables by  $\chi_1, \chi_2, \dots, \chi_n$

And further assuming that dependence occurs through the linear combination

$$g(\pi) = \beta_0 + \sum_{i=1}^n \beta_i \chi_i; i = 1, \dots, n \dots\dots\dots 1$$

where  $\beta_i$  measures the impact of variations in  $\chi$  on the function of  $g$  of probability  $\pi$ . The assumption of the logistic model will be that:

$$\log \left( \frac{\pi}{1-\pi} \right) = \beta_0 + \sum_{i=1}^n \beta_i \chi_i; i = 1, \dots, n \dots\dots\dots 2$$

The values of  $\beta$  can then be estimated using maximum likelihood method. Probability value of  $\pi$  is estimated by:

$$\pi = \exp (\beta_0 + \sum \beta_i \chi_i) / [1 + \exp (\beta_0 + \sum \beta_i \chi_i)] \dots\dots\dots 3$$

The estimated logistic regression results obtained through an iterative maximum likelihood process for export performance of Lesotho apparel manufactures are presented and discussed in the next sub-section.

### 6.4.3 Estimation Results

Table 4 presents the logistic regression results for export performance of the functional form:

$$exp = f \{ fsmo, edumgt, scale, agoa, \} \dots\dots\dots 4$$

where:

*exp* represents the dependent variable that measures export performance. *fsmo*, *edumgt*, *scale*, and *agoa* are all independent variables that capture export commitment and motivation, human capital endowment, scale of operation and AGOA trade-preference incentives respectively.

**Table 4 Logistic Estimation Results for Value Creation Model**



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Number of obs	33		
Log likelihood	-14.08627		
Prob > chi2	0.0008		

Independent Variable	Coefficients	P> z	Marginal Effect
<i>edumgt</i>	2.623604	0.030*	0.1852
<i>fsmo</i>	1.105019	0.797	0.0528
<i>agoa</i>	3.61e-07	0.038*	0.2544

Predicted Classification	
Correctly Classified	87.88%
Incorrectly Classified	12.12%

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\*Significant at 0.05 level.

The initial estimation that was performed for equation 6 above showed that the explanatory variable *scale* did nothing to improve model performance. It was therefore dropped from final estimation and the result for specification with the best performance is the one reported above. As expected, the model has a good fit as more than 87% of observations in the sample are correctly classified. This proportion is much higher than the base level of 0.5 that is recommended (Chatterjee and, Hadi, 2006). Furthermore the chi-square test strongly rejected the hypothesis of no explanatory power in the model.

Following the literature on determinants of export performance discussed in chapter 4, the neo-endowment hypothesis has propositions to the effect that both human capital and export commitment and motivation are two forms of resource endowment that confer

competitive advantage to firms. They are thus expected to influence export performance in a positive way (Rialp-Criado et al, 2004; Wakelin, 1998).

Also policy variables like trade preference programmes reduce artificial barriers to trade and are expected to facilitate market access for potential exporters. In terms of their impacts on export possibilities at plant level, a measure of the value of preferential programmes' incentives should correlate positively with firms' exports performances.

All the variables turn out with the expected sign and statistical significance is confirmed at 95% for all except expenditure on marketing and overhead (*fsmo*). The main hypothesis of a positive relationship between AGOA trade preference and export performance of Lesotho apparel firms is confirmed. For every one unit increase in value of AGOA the probability of exporting to the US market increases by about 25.44%. It can therefore be submitted that AGOA has created value for the country's apparel sector.

## **6.5. VALUE ENHANCEMENT AMONG LESOTHO APPAREL FIRMS**

Recall that the arguments in chapter five relate value enhancement needed to assure sustainability of value created in the medium term to improvements in efficiency performance of industrial firms. Such improvements in the context of trade-induced boom in output are also governed by the social-capability of beneficiary economy. This leads to the formulation of the second hypothesis, which is reproduced here as follows:

**The social-capability deficit of Lesotho's economy has impacted negatively on efficiency performance of apparel manufacturing firms and hence the prospect of sustaining gains from preferential trade treatment in the medium term.**

The objective of this section is to empirically test this hypothesis by specifying a technical efficiency model as a benchmark for investigating the influences of social-capability variables on productivity behaviour of Lesotho firms. The section proceeds with a motivation of the choice of empirical method and model specification in subsection 6.5.1, followed by data analysis and variable descriptions in 6.5.2. The final subsection presents the estimated results.

### **6.5.1 Stochastic Frontier Analysis**

Estimations of firm level operation efficiency have over the past few decades relied on two principal approaches. One approach utilises data envelopment analysis (DEA) which is based on mathematical programming technique. The other relies on stochastic frontier that is based on econometric method. While the argument for the DEA approach is substantiated on the ground that it does not require any parametric assumptions or assumptions about the functional relationship between input and output, its main drawback is that the computed inefficiency scores are very sensitive to measurement errors (Teal and Soderbom, 2002). Stochastic frontier approach proposed independently by Aigner, Lovell and Schmidt (1977) and Meeusen and van den Broeck (1977) is able to overcome these problems and will consequently be employed in this investigation.

A stochastic model can be derived from a production function involving an error term, which has two components. The first component of the error term normally captures the random effect ( $V_i$ ), while the second accounts for the unobservable inefficiency ( $U_i$ ). This model is given by:

$$\ln Y_i = x_i \beta + (V_i - U_i) \quad i = 1, 2, \dots, n \quad \dots \dots \dots 5$$

- Where  $Y_i$  is the production of the  $i$ -th firm;
- $n$  represents the total number of firms;
- $x_i$  is a  $k \times 1$  vector of input quantities of the  $i$ -th firm;
- $\beta$  is a vector of unknown parameter;

$V_i$  are random variables, which are assumed to be iid.  $N(0, \sigma^2 v)$  and independent of  $U_i$ ;

$U_i$  are defined as non-negative random variables and assumed to account for technical inefficiency in production and assumed to be independently distributed as truncations at zero of the  $N(\mu, \sigma^2 u)$  distribution

The technical efficiency ratio of the  $i$ th firm ( $TEF_i$ ) can be defined as the ratio of actual output  $Y_i$  to frontier output  $x_i\beta + U_i$  and it can be determined after performing the following transformation:

$$TEF_i = \frac{Y_i}{x_i\beta + U_i} = \exp(-U_i) \dots\dots\dots 6$$

The estimation of equation 3 above can be carried out by estimating a production frontier of an appropriate functional form.

**An Inefficiency Effect Model:** Recognising that certain factors may operate at the level of the firm to hinder efficient operation is of little policy significance if we cannot disentangle the actual mechanism of this relationship. In other words from a practical policy perspective, it will be of great interest if we can reveal the way efficiency performance of organisation responds to changes in the level of these firm specific variables. Fortunately a model of inefficiency effect can be developed to address this issue. Extant literature on stochastic frontier analysis reveals a number of different approaches. Some empirical studies have used a two-stage approach. In the first stage

stochastic frontier estimates are derived and predicted efficiencies are in the second stage regressed on chosen explanatory variables. This method according to Coelli (1996) is unlikely to be as efficient as those that could be obtained using a single-stage estimation procedure. Among the single-stage stochastic frontier techniques that model the inefficiency effects as an explicit function of a vector of firm specific variables and a random error are Reifschneider and Stevenson (1991) and Battese and Coelli (1995). This estimation follows Battese and Coelli's (1995) specification and expresses the efficiency model in logarithmic formation of expression 8 above as:

$$\ln Y_i = \ln f(x_i; \beta) + (V_i - U_i) \dots\dots\dots 7$$

where

$$V_i \text{ are iid } (N(0, \sigma^2 v),$$

$U_i = (\eta_i z_i + \epsilon_i)$  and represents non-negative random variables assumed to express inefficiency in production and distributed independently as truncation at zero of the normal distribution  $N(\mu, \sigma^2 u)$ ;  $\mu = \eta_i z_i$

For the *i*th producer, technical efficiency can then be expressed as follows:

$$TEF_i = \exp[-U_i] = \exp[-\eta_i z_i - \epsilon_i] \dots\dots\dots 8$$

Varieties of hypotheses can be tested to verify the validity of our model assumptions. For instance the test that technical inefficiencies are not present in the model can be conducted under the null hypothesis given by  $H_0: \gamma = 0$  with the  $\gamma$  parameter defined as  $\gamma = \sigma^2 u / (\sigma^2 v + \sigma^2 u)$ . If we fail to reject this hypothesis then the model approximates to the deterministic or average response function which can be effectively estimated with

the ordinary least square technique. Another hypothesis that the inefficiency effects are not influenced by changes in explanatory variables included can be tested with the null specified as  $H_0: \delta_1 = \delta_2 = \delta_3 = \dots \delta_n = 0$ . The test with respect to the appropriateness of the functional specification can also be carried to ascertain whether or not a Cobb-Douglas specification for instance with constant returns to scale is preferable to say a Translog form with variable elasticity of factor input.

All these hypotheses can be tested by using the generalised likelihood ratio test with test statistics given by:

$$\lambda = -2 \{ \ln[L(H_0)/L(H_1)] \} = -2 \{ \ln[L(H_0)] - \ln[L(H_1)] \} \dots \dots \dots 9$$

This statistics is asymptotically distributed as a chi-squared with degrees of freedom equal to the difference between parameters of the hierarchically nested models. Critical values for the test can be obtained from the appropriate chi-square distribution table.

### **6.5.2 Data Analysis**

To estimate the above model, specific information on variables of the firm's production function as well as those that measure the social-capability environment of Lesotho's economy will be needed. Before discussing how these data have been captured limitations arising from their cross-sectional nature must first be pointed out.

There are two main ways of handling cross-section data. One way is to assume that all establishments are allocatively efficient such that input shares are affected by the same technical inefficiency. Under this scenario the error term is assumed to exhibit noise only. Since this assumption cannot be tested the estimation results will be biased if the true technical inefficiency is not equally distributed. The second way is to assume that allocative inefficiency is constant across firms but input specific. Again this assumption does not lend itself to empirical solution with cross section data.

That being said, Table 5 below first provides a descriptive summary of the main production characteristics of Lesotho apparel firms for 2004 based on survey responses and LBOS data. This is followed by a description of how they have been measured. Doing the same for variables of the social-capability environment completes the data analysis of this section.

**Production Technology Variables:** In the production function, the dependent variable, Output ( $y$ ) is defined as the natural logarithm of output. Four input variables: capital, denoted  $k$ ; labour cost, denoted  $ws$ ; human capital,  $hk$  and energy input  $engy$  have been introduced.

To obtain the value of capital stock used during the fiscal year, respondents were asked to provide an estimate of the depreciation of capital asset or rent paid for capital equipment during the fiscal year. This approach is consistent with a number of previous studies that have attempted to model efficiency behaviour of firms (Battese and Lundvall, 2000;



Teal and Soderbom, 2002). Again following Battesse and Lundvall, (2000), value of labour input is calculated as the total value of wages and salaries paid during the year.

**Table 5**

**Summary of Production Technology Attributes of Lesotho Apparel Firms 2004**

Production Technology	Mean Values
Output (y)*	149679.2
Capital Stock (k)*	7568.89
Labour (l) **	1071
Human Capital (hk) ***	5.9
Energy Input (engy)*	18784.13
No of Observations	33

\* Expressed in 000s of Maluti

\*\* No of workers

\*\*\* Measures the average number of schooling years for the representative agent of the firm.

Source: Author's calculation

Teal and Soderbom, (2002), have pointed out that the productive quality of labour is unlikely to be constant across individuals and firms. To allow for the influence of skill differentials in production process to be captured, the variable, human capital (*hk*) has been introduced. As was done in Chapelle and Plane (2005), this variable is calculated as the average number of school years for a 'representative' agent. The weighted average of the statistics serves as a proxy for a firm's human capital.

Finally, the specification of production function is completed with a measure of energy input that firms employed in production. Bhavani and Tendulkar (2001) had introduced similar variable into the production function in their specification of efficiency model for Indian textile garments and apparel industry. This is proxied by the cost of fuel and energy input used in manufacturing operations during the year.

In capturing some of the variables explained above in terms of their value, we are not unmindful of the biases that are potentially associable with value data and this being recognised as potential limitation of findings.

**Social Capability Variables:** The hypothesis of technology transfer and productivity that this study investigates assume that some exogenous variables may influence the productive efficiency of apparel manufacturing establishments in Lesotho. Four of these factors which are considered to reflect the inadequacies of the economy's social-capability that critics of the convergence hypothesis argue can impede successful technology transfer have been introduced. They are here identified to include various kinds of constraints imposed by: poor public infrastructural services deliveries (infr); poor access to institutional credit (crdt); bureaucratic impediments (brc) and official corruption (crp)<sup>25</sup>. Table 6 below provides the summary statistics for these variables

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<sup>25</sup>The questionnaire used for the survey was designed to mimic the World Bank Regional Programme on Enterprise Development (RPED) Surveys. RPED Survey is a research project co-ordinated by The Bank for the purpose of generating firm level data on manufacturing activities in developing countries. The survey among others provides information on social and institutional constraints (business climate) facing manufacturers in the developing world (see <http://www.worldbank.org/rped>). A number of papers have been published on the basis of data from this survey. Among the more recent ones are: Chapelle, K. and Plane, P. 2005. "Technical Efficiency Measurement within the Manufacturing Sector in Cote d'Ivoire: A Stochastic Frontier Approach", *Journal of Development Studies*, 41 (7): 1303-1324 and Bigsten et al.,

while detailed representation of the data is contained in the Histograms of Responses in Appendix A2<sup>26</sup>

Information on the likely impact of poor public infrastructural services were obtained by asking participants to reveal their responses to a question on whether or not public service deliveries constitute an obstacle in relation to their firms' operations. Responses were calibrated on a 5-point Likert scale ranging from 0 (no obstacle) to 4 (very severe obstacle). From the histogram in Appendix B the modal response comprising more than 40% of respondents is seen to be 3. This indicates that a significant number of our respondents are in agreement that the variable constitutes a major obstacle but not of a severe type. However, if we consider the fact that the next in line in terms of response with the highest frequency is 4 with more than 20% rating the service delivery as a very severe obstacle we get the impression that majority of respondents consider this variable as a serious impediment.

Poor public utility service deliveries represent a failure on the part of an economy to provide adequate business support infrastructure and are expected to raise the competitive stake for firms experiencing its negative influence. Our expectation follows that this variable will positively impact on technical inefficiencies of the firm.

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'Rates of Return on Physical and Human Capital in Africa's Manufacturing Sector' in *Economic Development and Cultural Change*, pp.801–27.

<sup>26</sup> We should point out that capturing social capability variables which is a state level phenomenon with firm level data can be potentially problematic. As one observer noted, it is possible for instance that firm managers' responses to question on access to credit are endogenous so that causality runs either way: a rejection of loan application by banks may be informed by the banker's knowledge that the applicant in question is a low productivity enterprise. This problem is acknowledged as a significant weakness of our estimation.

Similar qualitative variables were developed to capture the effects of bureaucratic impediments, poor access to credit and official corruption on firm performance. Possible losses resulting from having to deal with varieties of official regulations were introduced by modeling information on respondents' perceptions of the magnitude of bureaucratically induced operational problems. We gauged this perception by asking respondents to indicate the extent of their disagreement/agreement with a statement like this 'Dealing with requirements imposed by legislation is a problem to the smooth operation of my business'. The modal response tended towards agreement with about 37% of participants agreeing with the statement while around 34% neither disagreed nor agreed. So disagreement exists on managers' perceptions of the quality of bureaucracy.

Inefficient system of administrative control may increase technical inefficiency of the plant since managers/staff will be forced to waste valuable times attending to cumbersome regulatory issues. Therefore this variable should impact positively on inefficiency.

Although the structure of our *access to institutional credit* variable question follows the same qualitative Likert-scale response design its message was actually intended to extract information of an opposite kind. So rather than measuring responses in terms of increasing disturbances, participants were asked to reveal their judgments on the efficiency of financial institutions in terms of decreasing disturbances scaling from (0) very inefficient to (4) very efficient. The sample evidence reveals that close to 60% of respondents viewed financial institutions in the country as generally inefficient. It is also

instructive to note that none of the respondents considered these institutions to be very efficient while around 10% were of the opinion that they are very inefficient. This convergence of responses around inefficiency as a general perception is also supported by the sample statistics which shows a mean of 1.31 and standard deviation of 0.85. So just like the perception of public infrastructural services deliveries access to credit is also viewed by many to be a significant hindrance to business operations

Good access to institutional credit reduces transaction costs so that firms with better access are more likely to report higher efficiency scores than their counterparts. Therefore a negative correlation with inefficiency is what is anticipated from the coefficient of this variable.

Finally, official corruption has been introduced as another manifestation of social capability deficits that can potentially plague efficiency performance of the firm. We captured this variable by abstracting from participants' responses to the statement 'Official corruption constitutes an impediment to doing business in this country'. With an option to choose from a 5-point scale ranging between 0 (fully disagree) and 4 (fully agree) the mean response was 2.50 with a standard deviation of 1.02 suggesting that respondents were generally unsure of their position on this matter. But in as much as corruption is seen to increase a firm's transaction costs a positive association with inefficiency should be the natural outcome of its potential impact.

It is hardly surprising that majority of establishments rated infrastructural services deliveries as a significant obstacle to doing business in the country. From industrial establishment's perspective Lesotho provides a relatively uncompetitive environment for the supplies of utility service input for production purposes. For instance, in comparison with some of its most important competitors in the global market for apparel (South Africa, China and India) not only is the cost of electricity services higher in the country, its quality in terms of frequency of outages is also worse-off. Water which constitutes a critical input for the garment industry especially the denim plants is also in limited supply as our findings reveal.

Furthermore, besides the fact of its landlocked geography transportation problem is further exacerbated by limited rail service networks. The railhead located in the capital is the only one the country can boast of. Very often its capacity is over stretched and delay in the delivery of goods to client firms is a common experience. This service supply inadequacy has often meant that a number of plants are forced to resort to the more expensive truck services to transport intermediate inputs and outputs within and out of the country.

What seems surprising however is that similar majority of respondents viewed access to credit as an important obstacle as well. This is not to suggest that Lesotho has a very competitive financial sector. In the contrary the profile of the sector is defined by oligopolistic and related inefficient attributes. The banking sub-sector is small, relatively underdeveloped and significantly dominated by three South African Banks (Nedbank,

First National Bank and Standard Bank). The services they provide are mostly limited to overdraft facilities usually to large customers. Although two Development Finance Institutions (Lesotho National Development Corporation (LNDC) and Basotho Enterprise Development Corporation (BEDCO)) were set up to enhance the economy's ability to provide financial intermediation, they have largely ceased to operate (World Bank, 2007).

But given that the garment industry in Lesotho is almost entirely controlled by foreign investors who ordinarily should be able to finance their operations through their outside network one would expect that they should have little problem with these institutional failings. This argument can easily be discounted (dismissed) on the ground that these responses are reflections of participants' judgments on the efficiency of local financial institutions and not on their own abilities to raise funds. Ordinarily firms will prefer to source their fund locally as resort to external sources may represent a less efficient choice since higher transaction costs would be incurred.

It is plausible to argue that in a single country where a uniform institutional regime governs the affair of business the observed variations in respondents' perceptions of the magnitude of corruption and quality of bureaucracy is not a true reflection of reality but mere subjective opinion. Firstly, we argue that firms differ in their approaches and strategies for dealing with institutional issues like corruption. These differing approaches define their unique experiences and the kind of judgments they pass on the phenomenon. For instance, while some may be negatively or weakly disposed to offering inducements and fail to read its signs or simply dismiss it as manifestations of bureaucratic or other

forms of inefficiencies, others may be positively disposed and always ready to play the ball even at the slightest opportunity. These differences are especially likely to affect the type of relationships that regulatory officials cultivate with establishments' staff.

Secondly, the burden of bureaucratic compliances may not be evenly spread across plants. Given that compliance with regulatory requirements could present different opportunity costs for different firms, a given system of administrative control could constitute varied levels of impediments to each and every organisation. Thus the revealed variations in perceptions can be understood within this context. The next subsection tests how these experiences affect efficiency performances.

**Table 6 Summary Statistics of Social Capability Variables**

Variable	Observation	Mean	Std. Dev.	Min	Max
Infrastructure	32	2.62	1.15	0	4
Bureaucracy	32	2.34	1.04	0	4
Access to credit	32	1.31	0.85	0	3
Corruption	32	2.50	1.02	0	4



### 6.5.3 Estimation Results

Adopting the Cobb-Douglas functional form, which has been used in previous studies such as in Knittel (2002) among others, the stochastic model is estimated for the Lesotho apparel-manufacturing firms.

Two other reality checks were further conducted to verify the validity of our empirical approach for the study. The first of these concerns ascertaining whether or not the stochastic frontier model was really a superior representation of the data over the average response function with no technical inefficiency. The second investigates the effects of all the explanatory variables in the inefficiency model to establish their significance as possible sources of technical inefficiencies. Both checks and the hypotheses deriving from them were tested using the earlier suggested generalised likelihood ratio tests and their results have been presented in Table 7. Values of the generalised likelihood ratio statistics that were obtained using the restricted and the full model are reported in the first column and their respective critical values are given in the second.

**Table 7**  
**Generalised Likelihood Ratio Tests of Hypotheses for Parameters of the Stochastic Frontier Production Function**

Null Hypothesis	LR Statistics	Critical Value	Decision
$H_0: \gamma = 0$ (No inefficiency)	18.24	9.49	Reject
$H_0: \delta_1 = \delta_2 = \dots \delta_5 = 0$ (No functional relationship)	16.11	9.49	Reject

Given our null hypothesis that all firms operate on their efficiency frontier i.e. no technical inefficiency, it is seen from the Table that this hypothesis is easily rejected in favour of the alternative assumption that inefficiency effect is a defining attribute of production. The generalised one sided LR statistics is significant at 5% level. Revealed value of the estimated  $\gamma$ -parameter reported in Table 8 below also lends strong support to this conclusion. With a significance value at 1% level, the  $\gamma$ -estimate reveals that about 66% of total variability is associated with inefficiency of production. A deterministic model with fully efficient production behaviour assumption cannot therefore serve our purpose as well as a frontier specification will do.

Similarly, we find from the second row of Table 7 evidence against the null hypothesis that the coefficients of all explanatory variables in the inefficiency model are simultaneously equal to zero. Therefore, it can rightly be argued that all our speculated causes of inefficiencies are collectively significant in explaining efficiency variances among sampled firms.

Table 8 below presents the best regression results for the stochastic frontier model incorporating the influences of social-capability variables. The log-likelihood ratio test does not reject the hypothesis of a good fit with these exogenous variables.

**Table 8 Stochastic Frontier Estimation Result for Value Enhancement Model**

<b>Variables.</b>	<b>Coef.</b>	<b>t statistics</b>
<b>Production Technology</b>		
Intercept	1.89	2.19**
<i>logk</i>	0.64	1.85*
<i>logws</i>	0.62	3.41***
<i>logengy</i>	0.16	1.66*
<i>loghk</i>	-0.03	0.13
<b>Inefficiency Effects</b>		
Intercept	0.21	3.76***
<i>credit</i>	-0.43	3.03***
<i>scb</i>	0.29	2.51**
<i>sccor</i>	0.11	0.81*
<i>infr</i>	0.22	1.74*
Variance $\sigma^2$	0.44	1.82*
Variance ratio $\gamma = (\sigma^2 u / \sigma^2)$	0.66	5.95***
Log likelihood	-26.8	

(\*) indicates significance at 90% confidence level

(\*\*) significance at 95% confidence level

(\*\*\*) significance at 99% confidence level

For the variables of production technology, the expectation is that all input factors such as capital; labour, human capital and intermediate input should be positively correlated with output. This has been confirmed for only three of the variables: capital (*logk*); energy (*logengy*); and labour cost (*logws*). These factors have also displayed statistical

significance at 90% for energy and capital and 99% for labour cost. However, these results need to be interpreted with caution as both capital and labor are not exogenous to factor productivity so that this possibility could lead to biased estimates. But in view of the fact that our data is cross-sectional it is not possible to deal with these biases.

A surprising feature of this result however is the variable of human capital which contrary to expectation has a negative impact on performance. One possible explanation could be that the importance of skill differentials in labour input across firms in a labour intensive industry such as apparel may really not matter as such (Bhavani and Tendulkar, 2001). Teal and Soderbom's (2004) also find no evidence that observable skills are quantitatively important as determinants of productivities among manufacturing firms in Ghana. In any case the insignificance of its t-statistics suggests that we should not take this message too seriously.

With respect to variables reflecting the business climate or social-capability of Lesotho's economy, it was argued that their inadequacies would impact negatively on the extent to which firms can adopt the efficient technology that is incumbent in the frontier. For instance, recalling the arguments enunciated in chapter 5, Moses Abramovitz, had suggested that weak capital markets mediation constitutes a drag on the ability of an economy to finance its investment and prevents industrial establishments from attaining a desirable level of productivity performances. The variable that measures access to credit (*credit*) should other things being equal display a negative sign.

Again following Abramovitz hypothesis (discussed in chapter 5) that social attitude and arrangements that form an effective incentive social infrastructure such as efficient bureaucracy, effective utility services, zero tolerance level for corruption etc, are needed to facilitate economic growth. The argument further suggests that their absence or inadequacies are not performance-neutral but performance inhibiting. At firm level, this is expected to translate into inefficient productive activities and by logical deductions make adoption of efficient technology difficult. It is expected that all the variables that have been introduced in the model to capture this dimension of social capability deficit such as bureaucratic impediments (*scb*), corruption (*sccor*), and poor infrastructural service deliveries (*infrs*) should have positive correlation with inefficiency.

From table 8 above, it turns out that all the four social-capability measures (*credit*, *infrs*, *scb*, *crp*) display the expected signs and are variously statistically significant at different levels of tests.

The fact that all these variables exhibit significant negative correlation with efficiency performance of firms should not be surprising. One, it is a confirmation of Abramovitz's social-capability hypothesis that inspired the investigation in the first place. On the basis of these findings, the notion that weak system of financial intermediation, poor regulatory system, poor public infrastructural service deliveries and official corruption that represent some manifestations of inadequate social-capability do inhibit the ability of firms to adopt efficient frontier technology is an empirical reality.

Two some recent studies undertaken to understand how the business climate in Lesotho affects operational performances of businesses report findings similar to ours in this study. The World Bank Lesotho Investment Climate Assessment Report identifies lack of access to capital and inefficient regulatory procedures (among others) as key obstacles to doing business in the country (World Bank, 2005). Similarly, a 2002 report of a study commissioned by the government of Lesotho on her Garment industry reveals that inadequate water supply and poor container handling facilities (two important components of our infrastructural variable) constitute some of the most serious challenges to the continued growth of this subsector.

At this level, the assertion can thus be made that sustainability of preferential trade gains at least in the medium term depends to some extent on the adequacy of national social-capability of beneficiary economy.

## **6.6 VALUE RETENTION BEHAVIOUR IN LESOTHO APPAREL INDUSTRY**

In previous chapters of this thesis, the point was made that value-retention is a function of the degree of success that a NRTTP beneficiary achieves in retaining or integrating manufacturing organisations with the local economy. Since these firms are the agents through which both value-creation and value-enhancement activities are being carried out, their retention through long-term commitment to the economy is therefore material for any long-term sustainability of NRTTP gains.

The prospect for long-term commitment of investors to a region is argued in chapter five to be determined by the degree of local linkages that these investors assume in a particular locality. For instance a high degree of supplier linkage creates a dependency culture that ties down producers and makes relocation a difficult option. These linkage possibilities are as argued in chapter 5 considered to be subject to the availability of adequate incentives that generally define the business climate or social-capability of the economy. Hence, the third hypothesis of the impact assessment framework argues thus:

**Inadequate national social-capability in Lesotho impacts negatively on the degree of supplier linkage formation and hence the country's ability to ensure longer-term sustainability of gains from preferential trade treatments.**

The objective of this section is to investigate this hypothesis. This is accomplished through a suitable specification of a supplier linkage model (henceforth, embeddedness

model) that is then used to assess the impact of social-capability variables on supplier linkages behaviour of Lesotho apparel manufacturing firms. Sub-section 6.6.1 first discusses the methodological approach to the investigation before the presentation and discussion of results in sub-section 6.6.2.

### **6.6.1 Methodology**

The data used in this investigation is based on the responses to the administered questionnaire and LBOS database already discussed earlier. Overall 32 of the 38 (or what amounts to about 84%) of establishments that were operating as at December 2004 are included in this sample. These firms consist entirely of foreign-owned firms, as local presence in apparel manufacturing activities is very negligible<sup>27</sup>.

The questionnaire sought to uncover two main aspects of supplier linkages by asking respondents to provide information on such matters as percentage of inputs sourced locally and the number of firms an establishment owns in Lesotho. Percentage of input sourced locally is the most widely used proxy for linkages in existing literature (see, Crone and Watts, 2002; Kirchner, 2000; Williams, 2005). However, the relevance of number of firms that a particular firm owns in a locality can also serve as a suitable proxy

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<sup>27</sup> The World Bank actually estimates that there are about 408 firms in textile and garment sector in Lesotho. Out of these, only 38 are engaged in real manufacturing activities and are entirely foreign-owned factories. They also provide the bulk of employment in the sector. The remaining firms are usually small-scale Basotho-owned enterprises and dress-makers (tailors). See; World Bank. 2007. Lesotho: "An Assessment of the Investment Climate", Report No 38295



for linkages or long-term commitment to that region. This is because decision to operate additional plant may signify business expansion strategy, which only happens when a firm is prepared to commit itself to a long-term relationship. Such decision could also be informed by a desire to integrate backward in order to provide needed raw materials especially when local suppliers are not available. Next, a description and measurements of the variables used in the embeddedness equation is provided.

**Dependent Variable (No of Firms Owned):** From responses to the administered questionnaire, it was not possible to obtain data on percentage of input sourced locally as most respondents claimed there were no local suppliers. The investigation therefore opted for the number of establishments owned as a proxy for local linkages.<sup>28</sup>

To obtain these information respondents were asked to state the number of plants they operate in Lesotho which are in the same line of garment or apparel manufacturing business<sup>29</sup>. For the purpose of estimation, a value of 0 is assumed for firms that have only one plant and 1 for those that have more than one. Of the 32 firms for which this information is available, only 11 or roughly 34% reported having more than one establishment in 2004, while the remaining 21(approximately 66%) claimed they operated only one company during the reference year.

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<sup>28</sup> An indication of the plausibility of this choice as proxy for supplier linkages is that most firms that established more than one plant did so to produce needed material inputs. For instance, the Nien Hsing group, which has about three establishments, operates a Denim Fabric manufacturing plant: The Formosa Textile Mill. This company produces denim fabric, which is a material input for apparel or garment manufacturing and supplies most of its output to the three apparel manufacturers that Nien Hsing group owns in Lesotho. Also, the CGM group, which is another Lesotho leading apparel producer, operates a denim fabric manufacturing plant known as the The Crucial Trade Facility to supply its input needs.

<sup>29</sup> In identifying firms that belong to this category considerable care was exercised to avoid double counting.

**Control Variables (Size and Age of the Firm):** Based on the discussions in chapter 5 two control variables are introduced into the embeddedness model. These are establishment's size and age<sup>30</sup>.

Information on the size of the firm is obtained by using the total value of output produced as was done in Williams (2005). To distinguish between small and large plants the median value of output which amounts to 149 million Maluti was used as the guiding cut-off point. Consequently, this variable is introduced into the equation as a discrete variable and takes the value of 0 if the value of a firm's output is less than 150 million Maluti and 1 if output value equals or exceeds 150 million. 62.5 percent of the sampled 32 respondents is classified as low-scale producers because their output are below the benchmark, while about 37.5 percent qualified to be considered as large-scale firms. This method of classification is similar in spirit with the approach employed by Wood (2006) in his logistic analysis of the internal predictors of business performance in small firms.

Answers provided to the part of the questionnaire that required respondents to state when the firm commenced operation in Lesotho provide data on firm age. To model this variable in the empirical equation, firms are classified as either old or new depending on whether or not they started operation before 2000. A firm is described as new if it was established in 2000 or afterwards and qualitatively represented by the value 0. On the

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<sup>30</sup>We need to recall that besides firm's age and size the arguments put forward in chapter 5 identify variables such as industrial affiliation, technical sophistication, regional industrial identity, institutional quality, ownership and nationality of firms as other determinants of supplier linkages. But because the focus here is restricted to a single sector in a single country, it is not possible to consider some of these other explanatory variables that will require a cross-country-multi-sectoral level focus. Also, since a large proportion of apparel firms operating in Lesotho come from the Asian region, basically Taiwan, with the same ownership form the influence of nationality and ownership could not be considered as well.

other hand, all establishments that are considered to be old were in operation before 2000. These firms are assigned the value of 1 in the regression model. It turns out that approximately 44 percent of respondents are old while 56 percent of them are new plants.

In Table 9 a descriptive summary of the distribution of Lesotho Apparel manufacturers by their embeddedness, age and scale of activities is given.

**Table 9 Distribution of Lesotho Apparel Producers by Embeddedness, Age and Scale of Activities**

Variable	Percent
<i>Embeddedness (embd)</i>	
How many establishments do this firm own in Lesotho?	
(0) Only one plant	65.6%
(1) More than one plant	34.4%
<i>Scale of activity (scale)</i>	
(0) Output value < 150*	62.5%
(1) Output value ≥ 150*	37.5%
<i>Establishment Age (age)</i>	
(0) Established after 2000	56.3%
(1) Established before 2000	43.7%

\*Millions of Maluti  
Source: Author's calculation

**Social Capability Variables:** The same variables used in the value enhancement equation in Section 6.5.2 are introduced here. For the purpose of logistic estimation however, we collapsed the responses into a three scale outcome as shown in Table 10 below.

**Table 10: Social Capability Variables introduced in the Supplier Linkage Equation**

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Social Capability	Percent*
<hr/>	
<b>Access to Credit</b> ( <i>credit</i> ): Efficiency of financial institutions in providing credit to business firms	
0. Very Inefficient/inefficient	68.7%
1. Neither inefficient nor efficient	18.8%
2. Efficient/very efficient	12.5%
<b>Bureaucracy</b> ( <i>brc</i> ): Compliance with bureaucratic rules is a problem to smooth running of my business	
0 Strongly disagree/disagree	18.8%
1 Neither disagree nor agree	34.3%
2 Agree/strongly agree	46.8%
<b>Corruption</b> ( <i>sccor</i> ): Officials corruption constitutes a problem to doing business in this country	
0 Fully disagree/disagree	12.5%
1 Neither disagree nor agree	28.1%
2. Agree/fully agree	59.4%
<b>Public Infrastructure</b> ( <i>infrs</i> ): Infrastructural services delivery as an obstacle	
0 No or Minor obstacle	18.7%
1 Moderate obstacle	15.3%
2 Major/Severe obstacle	65.6%
<hr/>	
No of Observations	32

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\* Percentage of firms in the study sample

**Econometric Specification:** Again because of the binary nature of the dependent variable and given earlier motivations in sub-section 6.4.2, the econometric model for

this analysis utilises logistic regression framework. The logit model that is estimated is of the form:

$$\text{Log } P/1-P = a_0 + B_i X_i \dots\dots\dots 10$$

By solving for P, we derive the following:

$$P/1-P = e^{a_0 + B_i X_i} \dots\dots\dots 11$$

$$P = (1 - P)e^{a_0 + B_i X_i} \dots\dots\dots 12$$

$$P + P e^{a_0 + B_i X_i} = e^{a_0 + B_i X_i} \dots\dots\dots 13$$

$$P (1 + e^{a_0 + B_i X_i}) = e^{a_0 + B_i X_i} \dots\dots\dots 14$$

$$P = e^{a_0 + B_i X_i} / 1 + e^{a_0 + B_i X_i} \dots\dots\dots 15$$

$$P = 1/1 + e^{a_0 + B_i X_i} \dots\dots\dots 16$$

Equation 16 is the logistic probability function. P represents the probability that an apparel firm will get integrated or embedded with the local economy, whereas  $X_i$  is a row vector of explanatory variables. And finally  $e$  is the natural logarithm. The model is estimated for the embeddedness equation function given by:

$$embd = f(age, scale, infr, brc, crdt, crp,)\dots\dots\dots 17$$

where:

*embd*, is the dependent variable, which defines embeddedness or local linkages. *age*, *scale*, *infr*, *brc*, *crdt* and *crp* are all explanatory variables that capture plant age, plant

size, public infrastructure, bureaucratic impediments, access to credit and corruption respectively. The results obtained again through an iterative process of maximum likelihood estimates are discussed in the next sub-section (6.5.2)

### **6.6.2 Econometric Results**

Table 11 presents regression output for the most parsimonious or best fitting embeddedness model. The model includes variables of business age, size, access to credit public infrastructural services and corruption. Bureaucratic impediment variable has been dropped because it did not improve the model's fitness. Again following Chatterjee and, Hadi, (2006)'s fifty percent threshold for judging the goodness of fit it can be seen that the model has a good fit as nearly 87% of observations are correctly classified. The hypothesis of no explanatory power is also strongly rejected by the chi-square statistics.

Given the economic literature on determinants of supplier linkage discussed in Chapter 5, the nature of the relationship between size and local linkages is expected to be negative. Although empirical support has not been encouraging (O'Farrell and O'Loughlin, 1981; Reid, 1995) theoretical proposition suggests that larger plants have a lower dependence on the host region as a source of input (Crone and Watts, 2003).

However, unlike the size variable, both theory and evidence support the hypothesis that age is positively related to the level of regional sourcing by firms (O'Farrell and

O'Loughlin 1981; Phelps, 1997; O'Huallachain, 1984; Gorg and Ruane, 2001). The expectation is thus that our age variable will be positively signed.

In Chapter 5, reference was also made to how Joseph Stiglitz's contributions to the theory of social-capability had argued that the prospects that exist for a nation to absorb and retain development opportunities are a function of the quality of its economic organisation. Efficient economic organisations that provide adequate infrastructural service deliveries, strong financial intermediation, display zero tolerance for corruption and reduce bureaucratic red tape are more likely to succeed in sustaining development opportunities presented to their doorstep than those that cannot (Stiglitz, 1995). Given this proposition, the two variables of the embeddedness model that proxy for poor infrastructural services deliveries (*infr*) and corruption (*crp*) should other things being equal show negative association with linkage formation. The access to institutional credit variable (*credit*) will however be expected to display positive sign.

The control variables introduced, age and size, are positively but insignificantly correlated with the dependent variable. Two variables that serve as proxies for social-capability deficit, poor infrastructural services deliveries and access to credit display the expected negative and positive signs and are significantly correlated with embeddedness. The only social capability variable in the model which though is correctly signed but statistically insignificant is corruption.

Analysis of information provided by the value of our calculated marginal effects reveals that if the poor perception of public infrastructural service delivery is decreased by one

unit, the probability that firms will integrate locally will increase by 12.8%. Furthermore, a unit increase in firms' access to institutional credit will result in a 9% increase in probability of backward integration.

**Table 11 Logistic Estimation Results for Value Retention Model**

Number of obs	32		
Log likelihood	-15.902546		
Prob > chi2	0.0038		
Independent Variable	Coefficients	P> z	Marginal Eff.
<i>age</i>	0.800	0.205	0.052
<i>scale</i>	0.643	0.183	0.039
<i>infr</i>	-3.413	0.049	-0.128
<i>crdt</i>	1.392	0.052	0.091
<i>crp</i>	- 0.482	0.137	-0.143
Predicted Classification			
Correctly Classified	86.88%		
Incorrectly Classified	13.12%		

The finding that both poor infrastructural service delivery and poor access to institutional credit constrains the ability of Lesotho to absorb and retain development opportunities through the linkage of firms with the local economy thus confirms Joseph Stiglitz's hypothesis discussed above. In other words there is some evidence that inadequate social-capability as reflected in inefficient economic organisation that fails to provide adequate



business infrastructural support and efficiently mobilise financial resources for investment needs do perform poorly in retaining development opportunities.

These findings also align well with a recent World Bank finding which acknowledges the fact that poor access to finance is a serious impediment to Lesotho's ability to retain its existing investors (World Bank 2007)

## **6.7 CONCLUDING REMARKS**

Data collection problems, reliability of respondents' information, time-invariant nature of the econometric technique are acknowledged as significant shortcomings of this research and to some extent qualify the veracity of the claims that can be made. Notwithstanding, attempts in this chapter can be described as having shed some lights on some key economic issues.

Based on the theoretical model of trade preference impact analysis developed in this chapter, both static and dynamic impacts of AGOA on industrial export development are investigated. This dynamic flavour of the model, which bothers on sustainability of export performance, is considered a significant contribution, as the issue has not been seriously addressed in previous researches (Rolfe and Woodward 2005; Hoekman and Ozden; 2005; UNCTAD, 2003).

In the static analysis, the hypothesis that trade preferences do stimulate industrial exports of beneficiaries' products has been confirmed. Results of estimated regression for the value creation aspect of the impact assessment framework confirm this for Lesotho apparel producer beneficiaries of AGOA scheme. Extant literatures on the impact of trade preference on export performance have been criticised for relying too much on aggregated national level data and focusing on cross-country regression rather than sectoral and country specific focus (Hoekman and Ozden, 2005; UNCTAD, 2003). By utilising disaggregated firm level data in a one-sector one-country regression framework,

this study finds its relevance in the on going policy debate on trade preference effectiveness.

Furthermore, the dynamic aspect of the investigation also reveals that social-capability matters for sustainability of export performance of a beneficiary. The first element of this sustainability issue, value-enhancement needed to improve operational efficiency and make export performance sustainable at least in the medium term is hypothesised to be dependent on the adequacy of national social-capability. This hypothesised relationship is based on the literature on convergence-divergence debate where Moses Abramovitz argues that social-capability matters for efficiency improving technology transfer. The estimated efficiency model reveals that Lesotho's poor business infrastructural support services, weak system of financial intermediation, bureaucratic red tape and corruption that constitute significant social- capability deficits impede on the efficiencies of AGOA apparel exporter beneficiaries and hence sustainability of export performance in the medium term.

The second sustainability element is defined to be value retention and is needed to assure long-term sustainability of export performance. Joseph Stiglitz had suggested in his contributions that efficient economic organisation which constitutes a form of good social-capability is needed to enable an economy absorb and retain development opportunities like those presented by AGOA. Against this background, the supplier linkage (embeddedness) model that is specified to capture the prospects for value retention is also considered within the social-capability hypothesis. Results from the

estimation show that the odds are stacked against Lesotho sustaining its AGOA induced export performance in the long run because her weak social-capability as captured by poor business infrastructural support services and ineffective system of financial intermediation is making local linkages by apparel producers difficult.

## **SUMMARY AND CONCLUSIONS**

### **7.1 SUMMARY**

Central to the thematic focus of this dissertation is the role of trade preferences in industrial export development in poor countries. Much of the extant analysis in this area of research has traditionally been oriented towards static impact issues of temporary export stimulation to the neglect of the dynamic impact assessment of export performance sustainability. A major submission of the research is therefore that the current literature is wanting in appropriate framework and that much still needs to be done to understand better the nexus between trade preferences and industrial export dynamism.

The objective of the thesis is consequently pinned down to analysing the relationship between trade preferences and industrial export performance sustainability. A set of criteria from the Global Production Network (GPN) literature viz: value-creation, value-enhancement and retention is used to develop a framework for the analysis that is carried out. The practical importance of the thesis is found in the application of this framework to the experience of Lesotho apparel producer beneficiaries of AGOA trade preference scheme.

Chapter one introduces the issues with respect to the study problems and what the thesis intends to accomplish. The second chapter considers the contributions of research to the literature on trade preferences with emphasis on the Non-Reciprocal Initiatives. In order

to develop the framework, chapter three presents the literature on network and globalisation. An important contribution to this strand of research i.e. the Global Production Network theory is then suggested as a useful framework for analysing the impact of NRTTP on industrial export performance.

The economic issues involved in the constituent elements of the proposed GPN framework are the focuses of Chapters 4 and 5. Finally in chapter 6, all the considerations are put together to specify an impact assessment model, which is then tested empirically for the US Trade Preference Scheme (AGOA). This assessment is considered within the context of Lesotho apparel export performance under the Initiative. The following discussions provide a synopsis of the issues considered in each of the chapters.

**Chapter One:** This chapter has an introductory character with an identification of a problem in need of research attention. The 2005 export performance crisis that struck Lesotho apparel sector following the expiration of ATC regime exposed the fragility of an industry that had been turned-around (as claimed by many) by preferential market access treatments. Though, exports of the sector increased substantially to the US market during the first few years of AGOA's operation, its competitive weakness was exposed when the long anticipated increased competition from Asia eventually dawned. This is because the ATC quota that had hitherto placed restrictions on US apparel imports from more competitive countries like India and China expired in January 2005.

The chapter then argues that, preferential trade liberalisation in favour of developing countries have meaningful impact only when gains attributable to their incentives become sustainable in the long run. Unfortunately, existing literature on trade preference effectiveness have paid only scant attention to this issue of export sustainability. Drawing on insights from the debate on economic growth and convergence, the chapter submits that any analysis of long-run sustainability of preferential trade gains vis-à-vis export performance will have to take into account the social capability of a beneficiary's economy. Key research concerns that emerge from this include the need to

1. Develop a suitable framework for analysing the relationship between preferential trade liberalisation (NRTTP) and industrial export performance sustainability.
2. Investigate the impact of AGOA on export performance of Lesotho apparel firms (static impact analysis).
3. Investigate the role that social capability factors play in the sustainability of export performance as may be revealed in 2 above (dynamic impact analysis).
4. Identify key areas for possible policy intervention.

**Chapter Two:** To provide an intellectual basis for the research, the focus in chapter two moves to a survey of literature on the role of trade preferences in development. A historical account of preferential treatment in trade serves as the background for the analyses that are undertaken. An important message of this chapter is that trade preference impacts on economic performance through three main channels: welfare of members; multilateral liberalisation and industrial export development. The last of these

(i.e. industrial export development) is recognised as one of the main objectives of Non-Reciprocal Trade Preference Programme (NRTPP).

The theoretical underpinnings of trade policy as an instrument of development are found in contributions to the literature on trade and growth and issues involved are thoroughly discussed in the chapter. According to the said literature trade integration can help spur economic progress by facilitating innovation and technology transfer for participants. In the context of industrial development and especially sustainability of export performance under NRTPP this will suggest that such transfer of technology will help improve competitiveness of participants through upgrading of efficiency performance that will result. Consequently, it should follow that NRTPP should other things being equal succeed in achieving its designated objective of industrial development and sustainable export performance in beneficiary economies.

The chapter concludes with a review of the empirical literature on the impact of preferential market access programmes to find out whether these predictions have been borne out by evidence. Unfortunately, extant literature is found to be wanting in appropriate framework that will reveal these predictions. Most analyses that have been undertaken are confined to static issues of export performance to the neglect of the more dynamic issue of sustainability of performance. It is therefore argued that a new framework that will address this issue is needed.



**Chapter Three:** Chapter three responds to the call in chapter two by proposing a framework for evaluating the impact of NRTPP on industrial export of beneficiary countries. To do this, the literature on globalisation and development is presented as an analytical point of departure.

Because the network literature is the main analytical lens that contributors to the works on globalisation used to analyse its implications for regional development, the basics of this literature are first discussed in the chapter. Then analysis moves in subsequent sections to a consideration of some of the most important theories that have been developed in this regard. It becomes clear from this exploration that the Global Production Network (GPN) theory offers an interesting perspective for analysing the prospects for regional industrial development (an implied objective of NRTPP) in an increasingly inter-connected global economy.

Simply stated, the GPN philosophy is inspired by the understanding that modern industrial activities are fast losing their national identity in favour of a global one. This is because activities such as supplies, production, marketing etc that had hitherto been confined within borders are now increasingly configured in interconnected networks across borders. Integration into the global production network first requires regional authorities to attract the location and subsequent performance of a network function in their region (value creation). Since market competitiveness is the key to continued relevance to the network, it is also incumbent on regions to upgrade their value (value-enhancement). Finally, in an era of increased capital and plant mobility, the prospects for

a longer-term survival in the network will be determined to a great extent by how well a region succeeds in integration producers into the economy (value-retention).

Employing the logic of the above analysis, the chapter points out that research on trade preferences can learn much about the likely impact of globalisation on the effectiveness of programmes. For instance, to initiate or facilitate the process of industrial export development, it is important that trade preference incentives facilitates regional integration into global production networks through export market access (value-creation). To sustain export performance of beneficiaries in the medium-term, enhanced sales performance (due to export sales) must translate into enhanced productivity (value-enhancement). To assure the sustainability of this process in the much longer-term, production agents must be tied down or integrated with the local economy (value-retention). This model of impact assessment is therefore suggested as the thesis' analytical framework.

**Chapter Four:** Following the framework developed in chapter three, chapter four discusses the economics of value-creation, which is considered to be the static impact element of the model. Because value creation is a matter of export stimulating abilities of NRTTP, the mechanisms by which the programme may help achieve this are explored. Two issues are recognised to be crucial to value creation mechanism of NRTTP: value of preferential margin as revealed by the reduction in effective rate of protection; and sensitivity of programme incentives to the particular mode of production organisation in

targeted sector. To put the arguments in an empirical context the literature on determinants of export performance is introduced in the chapter.

**Chapter Five:** Like chapter four, chapter five is concerned with the economic issues that are involved in the analysis of the dynamic elements of the impact analysis framework (value enhancement and value retention). But unlike chapter four, these analyses are carried out under the hypothesis that national social-capability of a beneficiary economy matters for their actualisation. In other words, based on the suggestions in chapter one, it is reasoned that the prospects for value created by NRTTP to be enhanced and captured is governed by the adequacy of national social-capability.

An introduction to the theory of social-capability and how its arguments relate to economic performances serve as the opening remarks here. The basic proposition of social-capability is that an economy lacking in adequate social and institutional infrastructure will be less successful in accomplishing development targets than the one that is not. By logical extension, it follows that the behaviour of industrial organisations on the two fronts of value-enhancement and retention will be expected to be sensitive to the adequacy of social-capability. For instance the adoption of efficiency improving technology required for enhanced productivity (value-enhancement) is hypothesised to be negatively correlated with inadequate social-capability. The literature on industrial efficiency is used as a framework for investigating this hypothesis.

It is argued further that the degree of local linkages or embeddedness needed to tie down production agents and facilitate longer-term sustainability of NRTPP gains (value retention) is inversely related to social-capability deficits. To examine this hypothesis also, the literature on supplier linkages is suggested and discussed as an analytical point of reference. These two hypothesised relationships constitute part of the empirical analysis that is carried out in chapter six.

**Chapter Six:** Chapter six connects all the arguments of the previous chapters with reality by presenting a theoretical model for analysing the impact of trade related development assistances on industrial export development in backward economies. This model is then applied to investigate the experience of Lesotho apparel producers under the US Trade Preference Scheme (AGOA).

In terms of the stated objectives of the dissertation, the first main part of this chapter presents the theoretical impact analysis framework with testable hypothesis. Empirical models for evaluating both static and dynamic impact of AGOA on apparel exports of Lesotho are then derived from this general framework.

To determine the static or value-creation impact of the trade incentive, an export performance function is presented based on arguments in chapter four. The estimated result, confirms the hypothesis that AGOA has been effective in stimulating exports of Lesotho apparel producers to the US market. For every one unit increase in value of AGOA the probability of exporting to the US market increases by about 25%. Thus the

first requirement of a trade preference like AGOA to facilitate the integration of a beneficiary into the global production network is found to be satisfied at this level.

The dynamic value-enhancement impact is studied under the hypothesis that elements of social and institutional infrastructure in Lesotho's economy (assumed to be inadequate) constrain efficiency performance of AGOA beneficiaries. A technical efficiency model in the framework of stochastic frontier is specified and the hypothesised relationship is confirmed. That is, inadequacy of Lesotho's social-capability constrains efficiency performance at plant level. We find that poor infrastructural support services, bureaucratic red-tape, access to institutional credit and corruption that all constitutes significant social-capability deficits impacts negatively on industrial efficiencies of apparel firms. This means that the enhancement of value needed to support medium-term sustainability of AGOA preferential trade gains is inhibited by this inadequacy.

The investigation carried out for the second element of the dynamic model (value retention), also reveals that Lesotho's inadequate business support services environment impacts negatively on the degree of local embeddedness assumed by apparel firms. Specifically, estimation results show that poor physical infrastructural support services affect the prospects for business linkages. If poor perception of public infrastructural service delivery is decreased by one unit, the probability that firms will integrate locally will increase by 12.8%. Also access to institutional credit is found to be a significant constraint to local linkage formation. For every one unit increase in firms' access to credit the probability of backward integration will increase by about 9%. Therefore the

'tying to the region' requirement for longer-term sustainability of gains from AGOA is also threatened by social-capability deficits.

## 7.2 CONCLUSIONS

**From an academic perspective**, this dissertation has demonstrated the usefulness of insights from other fields of studies to the analysis of trade preference effectiveness. In an era of increasing disciplinary convergence, the importance of interdisciplinary approach to the study of economic development cannot be over-emphasised. Employing the logic of Global Production Network theory, it has been shown that research in trade and development can learn much about the likely economic impact of systemic interdependences among nations brought about by the advent of the new global system of production. The framework that emerged from this ‘art of trespassing’ has not only proven useful in modeling the impact of trade-preferences on development, it has also enabled us to shift the frontier of knowledge in this area beyond its current static boundary.

Specifically, the study contributes to the literature on the impact of trade-preferences on industrial export performance of beneficiaries in a number of ways. The static impact dimension of the analysis addresses a key gap in existing works which seem to place so much emphasis on aggregated national level data and cross-country regression studies as basis for empirical evidence. By utilising disaggregated firm level data for a specific sector and country, the analysis finds its justification in the continuing policy debate on the effectiveness of preferential trade liberalisation programmes.

More germane however, to the debate on economic growth and convergence is the finding that social-capability matters for economic performance of nations. As efforts to unravel the puzzle over the differing cross-country growth performances continue to flourish, revelations here turn-up evidence against the mainstream position. At least in the context of Lesotho and its apparel industry, empirical evidence has shown that efficiency improving technological progress is not a free good. To the extent these results reveal a negative correlation between firms' efficiency performances and proxies for social and institutional weaknesses of the economy, Abramovitz's hypothesis that successful technology transfer depends on the adequacy of social-capability is confirmed.

Furthermore, the importance of social-capability to the social-absorption capacity of an economy has also been affirmed in this research. In his contributions to the debate, Nobel Laureate Joseph Stiglitz had stressed the importance of efficient social organisation to a nation's ability to take advantage of opportunities needed to steer the economy to a higher-level growth path.

For Lesotho's economy, the creation of value by AGOA that facilitated increased investment and export performance in the apparel sector represents a development opportunity that ought to be enhanced and sustained in the long run. However, as this study has shown, prospects for achieving this end through value-enhancement and retention are already weakened by her weak social absorption capacity that provides poor physical infrastructural support services and constrains investment financing for



businesses. On this front also, the hypothesis that social-capability matter for economic performance is confirmed.

**From a policy perspective**, one of the striking revelations of the research is that industrial development in modern globalised world economy is an outcome of complex interactions between actions of different agents of development. The notion that the actions of an independent agent acting in an atomised manner will be sufficient to produce results without the complimentary roles of others is contested by the research findings. Thus, it would be correct to assert that it is no longer acceptable to expect values externalised by development assistance donors to translate into desired outcome without the activation of beneficiaries' assets in a strategic coupling manner. It is against this background that the following suggestions that this research hopes can help improve the deliveries of trade-related development assistances are made. Policy actions are required on the part of both donors and beneficiaries.

**Donors:** On the part of the donors, it is important that trade preference incentives be sufficiently attractive to stimulate export of beneficiaries. Though the work here falls short of a comparative assessment of different programmes, but on the basis of the findings a reasonable assertion can be made that trade incentives need to be generous enough before they can help create value i.e. stimulating export performances. It should be recalled that some analysts have blamed the failure of other programmes to stimulate exports of targeted products on the unattractiveness of their incentives.

Also, when packaging a programme, it is important that emphasis transcends the boundaries of tariff and quota incentives to include technical support for targeted beneficiaries in the area of social-capability improvements. In the present circumstance of Lesotho apparel sector, a real danger exists that the economy will not be able to sustain its competitiveness when the programme finally terminates in 2015 because of inadequacy of national social-capability. Technical support that can be packaged with trade-related incentives should address development of institutional and social infrastructures of beneficiaries. This, for instance, can be in the areas of:

1. Physical infrastructural development, financial development assistances, regulatory quality improvements and combating corruption as the case of Lesotho has shown, and subject to further empirical findings, other areas of assistances can include:
2. Improving the quality of judicial services to provide timely and efficient dispute resolution.
3. Improving the quality of the national legal system to guarantee good property rights.

Finally, it is important also to ensure that progress is monitored through periodic evaluation exercises. This will help reveal where set targets are being met and where they are not. In areas where targets are not being met, reasons for deviations will be identified and appropriate actions taken.

**Beneficiaries:** On the part of beneficiaries, the key policy message is that their complimentary role in improving the business climate for NRTTP incentives to be effective is as important as the trade policy incentives of donors. In the case of Lesotho that this research has used as a case study, urgent policy interventions are required to help improve infrastructural support service delivery, enhance financial intermediation streamline business regulatory procedures and combat corruption. But in general terms and subject to further empirical investigations that are hereby suggested, authorities in beneficiary countries will need to deliver in the following policy areas:

1. Educating the local work force to provide employable skilled manpower for industrial organisations
2. Strengthening research support services for instance by encouraging co-ordination between research centres and industries. This is another element of social-capability that helps in the tying of suppliers to regional economy
3. Initiating supplier development programme to encourage and enhance the capacity of locals to supply the input needs of production organisations. As emphasised in the study, this is a kind of linkage policy that can guarantee the longer-term sustainability of NRTTP gains.
4. Improving the dispensation of justices

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## **APPENDIX**

### **Appendix A1: Questionnaire**

This survey documents business practices and experiences of Lesotho apparel firms vis-à-vis economic performance of the country. It is part of a university research programme and the ultimate goal is to have a better understanding of the workings of the economy and advice government in light of whatever findings that might emerge from the exercise.

Your answers should reflect your experience of doing business in Lesotho. Also note that the information obtained from you will be treated confidentially. Neither your name, nor the name of your firm will be mentioned in any document based on this survey.

#### **I. GENERAL INFORMATION**

1. What year did this establishment begin operations?

.....

2. Where are this establishment and your headquarters located in this country? (Name of city or town) .....

3. What is your main product line?

4. What is this firm's current legal status?

Publicly listed company 1

Private held, limited company 2

Sole proprietorship 3

Partnership 4

Other (SPECIFY) 5

5. What percent of this firm is owned by each of the following?

a) domestically-owned ..... %

b) foreign-owned .....%

6. What is the ethnic origin of principal majority owners?

African

European

Asian

Others/Specify

7. In what year did this establishment begin operations in this country?

8. How many establishments (separate operating facilities) in the same line of business does the organisation own in this country?

## II. SALES AND SUPPLIES

This section covers how and where this establishment makes its sales and how and from where it obtains inputs required for production.

9a. In fiscal year 2004 what percentage of this firm's output were

Sold domestically .....%

Exported indirectly (sold domestically to  
third party that exports products) ..... %

Exported directly .....%



9b. If this establishment exported directly in 2004 what was the main country of destination for the firm's products .....

9c. What percentage of your total exports was exported to this country .....

10. Why did your firm export to such market?

11. What was the average (per unit) cost of moving goods from the country of production (Lesotho) to country of destination (export market)  
.....

12. In what year did this establishment first export directly?

13. In fiscal year 2004, as a proportion of all of the material inputs and/or supplies purchased that year, what percent of this establishment's material inputs or supplies were:

Of domestic origin ..... %

Of foreign origin % ..... %

14. If your establishment is not purchasing domestic inputs and supplies, please rank the following factors that prevent you from doing so (with 1 being the most important):

There are no local suppliers

Local suppliers do not have sufficient capacity to meet orders

Quality of local supplies is inadequate

Cost of local supplies is too high

Business arrangements with parent company or affiliated subsidiaries preclude local sourcing

Other, please specify

### III. PRODUCTION SALES AND EXPENSES

The purpose of the following questions is to allow us to estimate the productivity of establishments like this one. It is important that this information be as accurate as possible.

15. Please provide the following information on your establishment's production, sales and expenses for the fiscal year 2004. (Value in thousands of Maluti)

	000s Maluti
a. Total sales	
b. Total units of output	
c. Total market value of Production	
d. Total cost of labour (including wages, salaries, bonuses, social payments)	
e. Total costs of electricity, fuel and other energy inputs	
f. Total costs of communications services	
g. Total cost of rental of land/buildings, and furniture	
h. Total cost of rental or depreciation of machinery, vehicles and equipments	
i. Total cost of marketing and sales expenses	
j. Total interest charges and financial fees	
k. Total purchases of raw materials (excluding fuel)	
l. Other overhead costs	

#### IV. INVESTMENT CLIMATE CONSTRAINTS

16. Please let us know if any of the following issues are a problem for the operation and growth of your business. If an issue poses a problem, please judge its severity as an obstacle on a four-point scale where:

**0 = No obstacle; 1 = Minor obstacle; 2 = Moderate obstacle; 3 = Major obstacle; 4 = Very Severe Obstacle**

	Degree of obstacle				
	No Obstacle	Minor Obstacle	Moderate Obstacle	Major Obstacle	Very Severe Obstacle
a. Telecommunication	0	1	2	3	4
b. Electricity	0	1	2	3	4
c. Transportation	0	1	2	3	4
d. Tax rates	0	1	2	3	4
e. Tax administration	0	1	2	3	4
f. Customs and Trade Regulations	0	1	2	3	4
g. Labour Regulations	0	1	2	3	4
h. Workers' Skills and Education	0	1	2	3	4
i. Business Licensing	0	1	2	3	4
j. Access to Financing	0	1	2	3	4
k. Cost of Financing	0	1	2	3	4
l. Regulatory Policy Uncertainty	0	1	2	3	4
m. Macro-economic Instability	0	1	2	3	4
n. Corruption	0	1	2	3	4
o. Crime, theft and disorder	0	1	2	3	4

17. What percentage of your total sales value was lost in 2004 due to?

- a. Power outages or surges from the public grid .....%
- b. Insufficient water supply .....%
- c. Unavailable mainline telephone service .....%

d. Transport failures .....%

18. How would you generally rate the efficiency of government in delivering services (e.g. public utilities, public transportation, security, education and health etc.). Would you rate it as (read 0-5)?

0 Very inefficient

1. Inefficient

2. Somewhat Inefficient

3. Somewhat efficient

4. Efficient

5. Very Efficient

19. "In general, government officials' interpretations of regulations affecting my establishment are consistent and predictable." To what extent do you agree with this statement? Do you (read 1-6)?

1 Fully disagree

2 Disagree in most cases

3 Tend to disagree

4 Tend to agree

5 Agree in most cases

6 Fully agree

20. In fiscal year 2004, what percentage of senior management's time was spent in dealing with requirements imposed by government regulations [e.g. taxes, customs, labour regulations, licensing and registration] including dealings with officials, completing forms, etc.? .....

21. We've heard that establishments are sometimes required to make gifts or informal payments to public officials to "get things done" with regard to customs, taxes, licenses, regulations, services etc. Does this apply in Lesotho?

If so and on average, what percent of annual sales value did such expenses cost your firm in fiscal year 2004? .....

22. Has this enterprise ever been rejected for a bank loan in the last few years?

23. If your enterprise never applied for a bank loan, why not?

Inadequate collateral 1

Didn't want to incur debt 2

Process too difficult 3

Didn't need one 4

Didn't think I'd get one 5

Interest rate too high 6

Already heavily indebted 7

Other 8 (specify):

24. Please tick as appropriate in order of importance

The three biggest obstacles to doing business in Lesotho are:

No Obstacle

High collateral requirements

Ownership regulations

High interest rates

Tax regulations and/or high taxes

Skilled labour shortage

Labour regulations

Crime and theft

Obtaining land and buildings

Corruption

Foreign currency regulations

Lack of business support services

Inadequate supply of infrastructure

Bureaucratic burden

Inadequate access to credit

Other (specify):

25. Please estimate the losses (as a percent of total sales) of theft, robbery, vandalism or arson against your establishment in 2004 .....

26. Generally on the average, which of the following best describes the educational attainment of your establishment's workforce?

(0) primary school or less

(1) secondary school

(2) vocational training

(3) some university

(4) graduate

27. "In general dealing with requirements imposed by government regulations on such matters as taxes, customs, labour, licensing as well as mandatory meetings with public officials is a problem to the smooth operation of my establishment." To what extent do you agree with this statement?

(0) strongly disagree;

(1) disagree;

(2) neither disagree nor agree;

(3) agree;

(4) strongly agree

28. "In general official corruption constitutes an impediment to doing business in this country". To what extent do you agree with this statement?

(0) fully disagree;

- (1) disagree;
- (2) neither disagree nor agree;
- (3) agree ;
- (4) fully agree

**V. TECHNOLOGY AND LABOUR**

29. Thinking of your main product line or main line of services and comparing your production process with that of your closest competitor, which of the following best summarises your position: **(select one)**

- 1. My firm’s technology is **less advanced** than that of its main competitor 1
- 2. My firm’s technology is **about the same** as that of its main competitor 2
- 3. My firm’s technology is **more advanced** than that of its main competitor 3

30. Do you offer formal (beyond “on the job”) training to your permanent employees?

- Yes 1
- No 2

31. **IF YES:** What percentage of your total permanent employees received formal training in the last two or three years?

32. How much did your firm spend on training, as a % of sales?

..... 2004      ..... 2003      ..... 2002

33. **IF NO:** If no formal training was undertaken, what were the constraints to formal training?

- a. Cannot define/prioritise training needs
- b. Lack of training institutions for external needs

- c. Lack of training by chambers of industry, business associations for external training
- d. Cannot identify competent trainers for internal training
- e. Cannot afford formal internal or external training
- f. Lack of government incentives for training
- g. Staff is uninterested in learning new skills
- h. Too risky – trained staff may leave
- i. Too risky – unsure of continuing demand for new skills
- j. No need – staff can train on the job
- k. No need – can hire staff from other firms

34. Would you be willing to participate in an industry-led and managed training scheme?

Yes 1

No 2

35. If not, why:

36. Do you support the idea of a levy to finance training schemes?

Yes 1

No 2

37. If not, why:

38. What percent of your workforce is unionised?

..... %

39. How many days of production last year did you lose due to strikes or other labour disputes?

40. What is the highest level of education of the top manager(s)?

1 Did not complete secondary school

2 Secondary School



- 3 Vocational Training
- 4 Some university training
- 5 Graduate degree (BA, BSc etc.)
- 6 Post graduate degree (Ph D, Masters)

41. How many years of experience working in this sector did the top manager have before running this establishment?

..... Years

42. Of these, how many years were with a domestic firm?

..... Years

43. Of these, how many years were with a foreign firm?

..... Years

**VI ASSETS AND LIABILITIES**

44. Please provide information on the following balance sheet items for your establishment:

**Value in thousands of Maluti as of end of the fiscal year:**

**2004    2003    2002**

- a. Total Assets
  - Property, Plant and Equipment:
    - Gross Value (Acquisition cost)
  - b. Machinery and equipment (including transport)
  - c. Land, buildings and leasehold improvement
  - d. Net book value
  - e. Current Assets:
    - f. Inventories and stocks
    - g. Finished goods

- h. Work-in-progress
- i. Raw materials excluding fuel
- j. Fuel
- k. Accounts receivable
- l. Cash on hand and in bank
- m. Other

45. Please provide information on the structure of your establishment's liabilities:

**Value in thousands of Maluti as of end of the fiscal year:**

**2004   2003   2002**

- a. Total Liabilities
  - b. Long-term liabilities (i.e. more than 1 year)
  - c. Short-term liabilities (i.e. one year or less)
  - d. Of which: payables
  - e. Equity – Share Capital
  - f. Retained Earnings (Reserves and Surplus)
- (Note: Total Assets must equal Total Liabilities)**

**Thank you very much for your cooperation**

**Appendix A2: Histograms of Responses to Questions on different manifestations of Social Capability Deficits**

